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Art is an important part of a balanced program for the total cultural development of every student. This manual suggests resources for developing an effective art program. An art program should be based on the needs, interests and experiences of the pupil; therefore, this guide is organized by art areas rather than by grade level. This manual can be used from kindergarten through grade 12 for mentally retarded, normal and gifted students to allow the student to develop in himself by the experience he has with the materials. By accomplishing certain objects through the suggested methods the teacher can make art an enriching way of life. For each art activity there should be stimulation and motivation, the expression of an idea and the evaluation of the product. Characteristics of pupils' work at various levels are described to aid the teacher in understanding growth and evaluation.

For kindergarten through grade 6 art should be a part of everyday life. In grades 7 through 12 art activities correlate with other subjects. Courses offered in secondary schools will depend on interest and enrollment of students and facilities available.

Suggestions for display and exhibition are given to provide visual communication between students. Numerous illustrations and references accompany text.

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HAWAII

KINDERGARTEN THROUGH GRADE TWELVE

ART Teaching Guide HAWAII

KINDERGARTEN THROUGH GRADE TWELVE

LURENE H. VAN PIERA
DIRECTOR OF ART EDUCATION

A PUBLICATION OF THE DIVISION OF INSTRUCTION

DEAL CROOKER
ASSISIANT SUPERINTENDENT FOR CURRICULUM,
INSTRUCTION AND GUIDANCE

WALTON M. GORDON, STATE SUPERINTENDENT

DEPARTMENT OF PUBLIC INSTRUCTION

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FOREWORD

The Department of Public Instruction presents this publication as a guide and manual for teachers in the teaching of art in elementary classrooms and in the art classes of the secondary schools.

Art education is an important part of a balanced curriculum for the total cultural development of both young children and older students. With this objective in mind, the guide has been compiled to give inspiration and resources for developing an effective art program.

Imaginative and inventive individuals are needed to meet the ever increasing problems of government, of the economic and social life of our time. All educational programs that develop independent thinking should be emphasized. Art education offers this when the emphasis is on originality.

The spiritual values gained through the appreciation of the arts are necessary in a time when so much stress is placed on the material needs of life.

The many cultural backgrounds of the people living in Hawaii offer a resource of aesthetic appreciation and a foundation for mutual understanding. Whenever possible, the fine art of these various cultures should be offered in correlation with art activities and other subject areas.

The guide offers many ideas and processes for improving the art program. However, teachers are encouraged to use their own creative approaches and initiative. Some of the art processes will require training in art workshops or art courses and will need to be supplemented with the recommended resources.

The photographs and line drawings have been added to give meaning to the text. The art work is from public, private and parochial schools exhibited in the Annual School Art Exhibition and from museum classes at the Honolulu Academy of Arts. Some of the crafts, using native materials, were made in the Board of Parks and Recreation classes.

We hope this guide will stimulate enthusiasm for a program which helps pupils develop and learn through art experiences.

Walton Gordon

State Superintendent

ACKNOWLEDGMENTS

As one thumbs through the pages of this beautiful book, it is obvious that it is a synthesis of the thinking and creative work of many. It is above all a fitting climax to the long and honorable career of Art Director, Lurene van Piera—teacher, artist, director. Only her perseverance and love for a good art program could have carried it through the writing and evaluations necessary for its printing. To Lurene van Piera goes a hearty "well done."

To Juanita E. Kenda, former Director of Art Education for the Department and now head of the Creative Art Section of the Honolulu Academy of Arts, goes a well earned note of appreciation for having worked so closely with the present Art Director in the development of this art guide.

We are deeply grateful to Robert P. Griffing, Jr., Director of the Honolulu Academy of Arts, for his cooperation; to members of the Academy staff for assistance in many ways; and to Raymond M. Sato, Academy photographer, for the beautiful photographs.

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Special acknowledgment is made to all the others who gave their valuable assistance in contributing to the text and its evaluation.

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Ded Crooke

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HOW TO USE THE GUIDE

The suggested activities in the art guide are arranged by art areas rather than by grade level for the following reason: Great variance is found in creative development and art experience among pupils in different classes of the same grade level or within a class. Therefore, an art program in each grade or art course should be based on the needs, interests and experience of the pupils rather than a rigid course of study.

The philosophy of art teaching is found in the sections Art—A Way of Life and Art as Creative Education. Further reading is advised from material recommended under Resources.

CHOICE OF ACTIVITIES FOR KINDERGARTEN THROUGH GRADE 12

The table of contents lists the two-dimensional activities first which includes drawing, painting and printing. The three-dimensional craft processes follow. Stitchery and weaving, though two-dimensional, are listed as crafts.

The approximate grades in which each art area may be introduced are also listed in the contents. Art areas suggested at these grade levels are based on interests, abilities and art experience of the children in an average group. The activities are interchangeable for any grade level depending on pupil maturity. A teacher knows best the maturity of pupils in a group and will choose art work accordingly. The section on Characteristics and Expected Outcomes will also help to determine the choice of activities at different grade levels.

Lists of resources, activities, materials, artists and paintings are not all inclusive. Others may be added by teacher and pupils.

The alphabetically arranged index will aid in finding specific areas and processes.

ART FOR KINDERGARTEN TO GRADE 6

ART AREAS

All pupils in the elementary school should have sufficient experience in the basic art areas to show development in art learnings as they progress from kindergarten to Grade 6. The basic art areas are drawing and painting, modeling with clay, creating with paper, constructing with wood, weaving with cloth and yarns, creating design by printing and making puppets for puppet shows. Every child will not succeed in all media, but should show improvement in a few.

Other art experiences may be introduced for a change from the basics such as collage, stitchery, masks, papier-mâché objects, stabiles, mobiles; creating with wire; making booklets, mosaics, batik; carving clay, wood or plaster. Maturity will determine the grade level at which these activities are used or introduced.

HOLIDAY IDEAS

Most of the many art processes described may be used for the children's own reactions to holidays rather than to imitate timeworn ideas of others. Imagination may have full sway for the looks of a witch or a ghost since no one has ever seen one.

GIFTS

Paintings and craft work may also be used for special day gifts, each child deciding whether he wishes to make a gift and what he desires to give, rather than having the entire class make the same thing. The gift making must be suited to the maturity of the child and not be the work of the teacher.

ART COURSES FOR GRADES 7 TO 12

The courses for these grade levels are described in the section Art Education for Grades 7-12. Refer to Table of Contents.

ART FOR THE MENTALLY RETARDED

The same art activities and materials suggested for normal children may be used for the art education of the mentally retarded. It will take longer for the stages of development (from scribbling to realism) than it takes normal children to progress. The results will not be of as high quality, **but important in the educational development.** Copying, color books and step by step dictation retard thinking and growth in the mentally retarded as well as with normal children. **Art Education For Slow Learners** by Charles and Margaret Gaitskell is recommended for teachers of both normal and mentally retarded children. The section on motivation is excellent. Refer to Resources under Philosophy and Art Activities.

ART FOR THE GIFTED

Pupils gifted in art show keen interest, originality and the ability to organize color, form and other elements in a product of high quality. They are fluid in ideas, but **may or may not be facile in drawing. A pupil may be able to draw an object perfectly and still not be gifted.** Provide activities for these exceptional children that will challenge their abilities. Offer experiences with a variety of media that require a high degree of intuition and intelligence in problem solving to visualize their ideas. Often the gifted in art are also proficient in other studies.

The teacher will find the following helpful:

Viktor Lowenfeld, "The Case of the Gifted Child", **School Arts,** April 1956.

Burton Wasserman, "The Exceptionally Gifted in Art", **School Arts,** May 1959.

Italo de Francesco, **Art Education, Its Means and Ends.** Refer to Resources under Philosophy and Art Activities.

RESOURCES

A bibliography and audio-visual resources are included at the conclusion of each subject area. The books are available either at the Library of Hawaii, the Educational Department of the Honolulu Academy of Arts or the Studio of the Art Director, Department of Public Instruction.

The Code Used for books is as follows:

- *—Recommended for school libraries
- #—Listed previously in Resources
- L.H.—Library of Hawaii, Music and Art Room
- A.A.—Honolulu Academy of Arts, Educational Department
- A.D.—Studio of the Art Director

Films and filmstrips are available for schools on Oahu from the Teaching Materials Center. The Art Director takes them to workshops on the other islands.

The art magazines, SCHOOL ARTS and ARTS AND ACTIVITIES, include many stimulating articles, some of which describe the processes that other teachers have used. The articles are usually illustrated with photographs. A brochure, listing articles beginning with January 1956 and grouped by art activities, may be obtained from the Art Director by the school librarian. A complete file of these two magazines from 1956 is maintained in the Art Director's Studio.

The list of books and audio-visual resources listed in the guide and the magazine articles listed in the brochure will be brought up to date each year. The supplements will be sent to the school librarians.

Information concerning supplies including names of supply houses may be obtained from the Art Director.

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Part I

ART EDUCATION

ART—A WAY OF LIFE

> "The arts are the language of the imagination and the emotions. Their language is essentially intuitive and must be treated and used as such. Because it is intuitive, it can keep alive and mature the imagination and emotions and so maintain a proper balance in the mind. Such a balance is essential not only to the growth of personality of the adult but also to society and civilization."[1]

Art has been an integral part of cultural and social living down through the ages in all civilizations. Man has created visual records in the art forms of architecture, painting, sculpture and crafts which reflect the era in which he lived. Today, as in the past, the expressions of artists are personal reactions to life's experiences and they are different because they reflect our time in a rapidly changing world.

PERCEPTION

Art is one of the highest forms of human expression and is a vital part of our everyday life. The visual arts develop sensitivity to environment and cultural heritage and provide a way of communicating to others through paint, clay and other materials what we see, how we think and how we feel about nature and the world of people and things in which we live.

Art in the classroom will also start with this natural response or reaction of pupils to their own experiences and emotions. They have a rich resource of impressions gained from seeing, hearing and feeling the things and happenings in their world. Perception or sensitivity gained through the five senses can be increased by many rich experiences at home, at school and in the community.

Impressions may come from actual experiences or from vicarious ones such as science, reading, drama, radio, films and television. Getting the pupils to visualize their impressions is a "drawing out" process which often needs stimulation from the teacher.

CREATIVITY

With a friendly atmosphere, the imagination of pupils and the teacher's enthusiasm, wonderful things can happen. **It isn't what Johnny does to the material, but what the material does for Johnny that is important.**

Creativity is the birth of something new from one's past and present feelings, ideas and experiences. It is more than self-expression or emotional outlet. It is independent thinking and

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[1] A. Barclay Russell. "The Relation of the Arts to Education and Society," Art Education Today 1951-1952, The Secondary School Program, Teachers College Columbia University, New York, c1953. Page 89.

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action which involves intellect as well as imagination and emotions for problem solving and invention. Ideas and intuition with necessary skills are essential in the creative process.

The ability to create is inherent in everyone. It is shared by all people to some degree even though all do not create in the same media or reach the same level of accomplishment. There is a basic need in everyone to create something worthwhile. It may be planning and planting a garden, designing and making a dress or creating original art forms.

Creative expression comes quickly for very young children. Older pupils take more time because they work more in detail or for a satisfactory product. Time must be allowed for contemplation. **A time limit cannot be used on creativity.**

Learning about the art of other cultures, past and present, develops aesthetic appreciation and furnishes inspiration for self-expression. Even though tradition plays a part, an original work of art translates all these influences into a very personal expression. This happens at any grade level if the young people are allowed to think and work in their own way. There will be no creativity when we conform rigidly to tradition. Imitation is not creation.

Creative thinking and action are important both to the individual and to the nation as a whole. They are essential in our democratic way of life in the complex world of today and tomorrow. Therefore, the ability to think creatively should be developed at all grade levels beginning with the very young. Since everyone has a natural urge to express himself, creating with materials in the visual arts is one way to meet this challenge.

"The atomic bomb is not the most powerful force in the world. The most powerful force in the world is made up of the unique individual creative talents of the individual—men and women who comprise this world. These talents are the source of all our creative power."[2]

ART APPRECIATION

Aesthetic development and art appreciation are needed by all young people to enable them to identify themselves with life and their environment. This includes their present culture as well as other cultures past and present.

Appreciation can be acquired only as the individual takes something and gives something of himself to a work of art. It cannot be taught, but it can be developed by many aesthetic experiences. It enriches daily living and should be a continuing experience throughout life. Students need time to absorb and experience beauty and design in a full visual life both in nature and the man-made world. Spiritual and aesthetic needs are also satisfied by developing creative power.

---

[2] From an address by Dean Ernest O. Melby, "Art in General Education," 1949 Yearbook of the Eastern Arts Association, State Teachers College, Kutztown, Pennsylvania. Page 14.

Aesthetic appreciation may come from any of the following experiences:

Enjoyment, evaluation and understanding of the work of another.

Participation and evaluation in creating one's own work.

Singing, dancing, selecting and arranging, listening to music, watching plays, seeing a sunset.

AESTHETIC JUDGMENT

Art surrounds us in the design of painting, sculpture, architecture, household furnishings, clothing, transportation, the theater, books, magazines, advertising, industrial products and hand-made crafts. As consumers of tomorrow, pupils need to know the good design from the mediocre in these products.

Recognizing good design for aesthetic appreciation and using discrimination in the choice of art products requires **learning.** The feeling for good design and learning can, with a well-planned classroom, begin in the kindergarten and continue throughout school life. All pupils should be introduced to examples of fine art and design including objects used in everyday living such as utensils and furniture. Appreciation should carry over into the lives of the pupils.

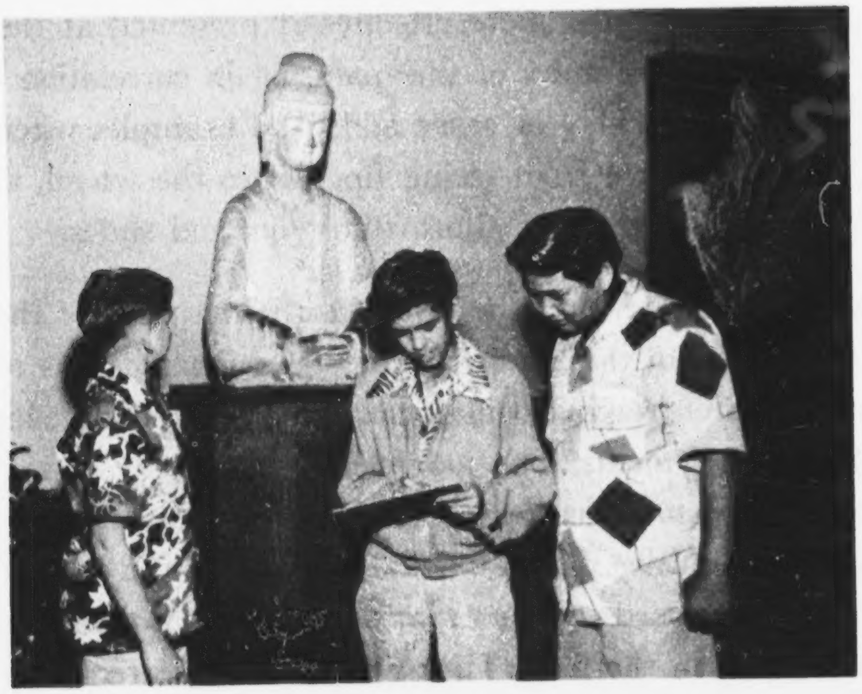
Usually art appreciation is more effective if presented at the time pupils are involved in a particular art area. Show samples of fine painting in correlation with their own painting, sculpture when they model with clay or carve and good examples when working with other materials. Learning can also take place from seeing fine art in the school, at home, in art galleries and art museums, in books and magazines, films, filmstrips and slides.

The works of art chosen must be suited to the maturity of the pupils. They must be allowed to contemplate the work of the artist to understand what he has to say and decide why they like it or not. Young children respond emotionally to a work of art, influenced unconciously by color, rhythm and other art elements. The judgment of older students will be influenced by how much knowledge they have of good design and how much experience they have had with fine art. Their response will also be intuitive and emotional, but influenced a great deal by whether the art form is realistic or not. They need to learn that realism does not determine fine art even though much of it has been realistic in the past. They need also to learn and understand the art of today in order to identify themselves with their own era and environment.

Hawaii offers its young people a rich heritage in the cultures of the many nationalities and races living in our islands. Costumes and customs, dancing and plays offer stimulation for creative work in the arts. The Bishop Museum is a resource for cultures of the Pacific. The art of all cultures, including Oriental and Occidental, is found at the Honolulu Academy of Arts.

Honolulu Academy of Arts

Museum Tour



Museum Club

ART AS CREATIVE EDUCATION

Art is a way of enriching life. With understanding guidance, it can be an important educational tool in developing the whole personality. Therefore, the art program should reach **all** students, not just the talented few. It must be a vital part of the curriculum in every school.

Art education can discover, challenge and develop talented students and provide for leisure-time activities. Art is a way of doing and can be correlated with all the other areas of learning such as social studies, literature, science, mathematics, shop, homemaking, music, agriculture, dramatics, physical education, health, foreign languages and social activities. Art can enhance the beauty of classrooms, buildings and campus.

GENERAL OBJECTIVES

The outstanding function of a program of art education for all young people must be to assist them to arrive at a well-balanced creative, intellectual, physical, moral, spiritual, emotional and social maturity. In order to achieve this end, the art program should function as follows:

Provide opportunities for building spiritual values by fostering artistic development.
Encourage creativity by providing opportunities to express and create.
Develop greater powers of detailed observation and visual judgment.
Help pupils to devolop self-awareness, self-direction, self-confidence and a sense of responsibility.
Help all pupils to achieve their highest potentials.

EDUCATIONAL OBJECTIVES

Develop and enrich the personality of students through a variety of creative experiences.
Encourage pupils to visualize ideas, thoughts and feelings in original expressions.
Help pupils increase the use of imagination and resourceful thinking in solving art problems.
Provide for pupil growth by encouraging experimentation, creativity and evaluation of his progress.
Offer activities which develop understanding of the characteristics of many materials by exploration.
Develop learnings and techniques necessary for creative growth and personal expression.
Develop pride in craftsmanship.
Encourage good work habits and respect for materials and tools.
Develop self-confidence and satisfaction in accomplishment and in the production of original ideas.
Develop individual initiative as well as group responsibility.
Provide opportunities for more specialized instruction in the field of art as the student matures.
Provide advanced art education for those with unusual ability.
Deepen understanding of the vocational and avocational value of art.
Increase critical judgment for selection of the fine art and industrial art products to be used in daily living.
Develop responsibility to self, home, school and community.
Develop appreciation for the heritage of fine art of all eras of history.

THE PRINCIPAL'S ROLE

Understands the philosophy of art education and the important part art plays in the total development of the individual.

Recognizes that art is essential in a balanced curriculum.

Is aware that art is a vital part of school life.

Is acquainted with current literature on art education.

Is interested in the art activities of the classroom.

Recognizes the need for guidance and learnings in art teaching for aesthetic and creative growth of pupils.

Recognizes needs of teachers for growth in acquiring criteria for evaluating their own programs.

Is cooperative in providing necessary supplies and equipment for a variety of activities, both two- and three-dimensional.

Encourages art exhibits in the school and community.

Assists the P.T.A. in arranging a meeting devoted to art.

Helps parents understand the importance of art in the curriculum.

THE TEACHER'S ROLE

Recognizes that growth in creative, independent thinking and the gradual improvement in the use of tools and materials is desired for each pupil.

Plans the art program in response to the pupils needs, interests and experience and not by a rigid prearranged course of study.

Provides a flexible and balanced program with a variety of media.

Has permissive, but controlled classroom.

Stimulates the pupils emotionally and intellectually in various ways.

Discovers the interests and abilities of the pupils and enlarges the opportunities for their expression.

Believes that all individuals are creative, including the teacher.

Recognizes the individual differences in art ability, experience and maturity within the group.

Understands that every pupil is different from every other pupil and ought to be.

Develops the uniqueness of each pupil; therefore, the art products of a class will all be different.

Encourages discussion of ideas and experiences.

Encourages fantasy and imagination from which comes creative expression.

Uses visual aids such as pictures, examples of fine arts and crafts, books, magazines, films, filmstrips and slides.

Encourages observation or "seeing" of nature and the man-made world and develops the other sensory powers of feeling and hearing.

Keeps interested, studies and has new things to offer.

Is acquainted with recent literature on art education.

Recognizes that experience is necessary with any art activity before trying to teach it.

Acquires criteria for evaluating own art program.

Has an individual creative approach and may add other ideas not offered in the guide.

Helps parents to understand the art work of young people and the standards for evaluation.

Art Workshop

ROOM ENVIRONMENT

Classroom environment may promote or retard effective learning experiences. The best learning environment stimulates the child to reach constantly for new horizons, new experiences, new understandings. It is the task of the teacher to create such an environment.

Simplicity, neatness and order, good grouping and harmonious color promote aesthetic appreciation and provide opportunities for teaching children basic principles of arrangement. Well-designed work areas, functional storage space, good ventilation and adequate illumination facilitate learning.

METHODS FOR MEETING PUPIL NEEDS

Pupils differ in their approach to art. Each person must work in his own way. Some paint, model and construct as they feel and are not concerned with appearance. Others are visual-minded and reproduce what they see. A large number combine both approaches. The teacher will respect this and furnish motivation for all types. A teacher can help pupils respond both visually and emotionally. Observation can be increased in some of the emotional-minded by "seeing" the real thing or pictures and through discussion of appearances of objects. The visual-minded are inclined to be dissatisfied with their work if not "just like real." Comparison of the work of mature artists will show them that a work of art is a personal expression and not a photographic copy of nature or man-made things. Self-evaluation and self-improvement will come with experience. Art products may be realistic, semiabstract, abstract or nonobjective.

Stimulation and motivation to new interests and appreciation may be accomplished by showing examples of good work of other pupils and adult artists of all cultures past and present (originals or reproductions); by arranging excursions to a museum; by using visual aids such as photographs, films, filmstrips and slides; or by demonstrating a new activity.

Stimulation before and in continued lessons is necessary to bring forth ideas, to encourage pupils and to free them from inhibitions. The pupil must have something to say or express. Some pupils need more guidance than others in individual or group discussions preceding activities. All children do not respond to motivation at the same time. After motivation, with very young children, results may happen soon or it may take days or weeks to evolve.

Recognition of pupil potentials in teacher-pupil planning guides the choice of art media. Pupils vary in ability and interest with different kinds of materials. Have joint participation of pupils and teacher in the selection and planning so that pupils may have a choice and also express themselves in their own way. This is necessary for the integration of creating, thinking and doing. Creating in their own way means independent thinking. It does not mean "any old way" or "free expression" with no guidance.

Exploring many media and using familiar ones in new ways provides opportunity for varied expression. When pupils are using a new material or process, they are gaining experience even though the results may not be for display. Often pupils are introduced to a new activity and try it only once. They should be encouraged to gain more experience and understanding of the new material or technique which will result in personal satisfaction and perhaps a new interest. Repeated experience with any material is necessary for improvement and growth.

Discussion concerning originality of ideas in all art projects is necessary. Honest expression of one's own ideas is so much more satisfying than copying the work of another. Copying gives the student a false sense of accomplishment. Copying denies one of the richest experiences of art which is creating one's own original work. Reproducing a scientific drawing or other material is often necessary, but the pupil must realize that it is not creative work.

Pupils must be helped to realize a purpose behind their expressions. It should not be just busy work. **Workbooks, coloring books and patterns (hectograph or other kinds) do great harm to the creative development of children.**

Lead pupils from where they are, acquiring techniques for their own security as they develop creatively. **Be sure to recognize when they need skills.** Art learnings are essential to growth.

Guidance in handling a material is given in order to develop enough skill to insure satisfaction in accomplishment yet preserving original expression and independent thinking. The teacher will encourage the pupil to make his own decisions by asking questions and making suggestions rather than dictating step by step how it should be done. There isn't just one way of doing things. By invention or maybe by making a mistake a pupil may discover a new method or approach. Too much assistance makes the pupil less self-reliant. Guidance does not mean doing the pupil's work.

In kindergarten and the elementary school manipulation and development of creative power is more important than the finished product which might or might not be immature. These should not be judged by adult standards, but it is important that children improve under the able guidance of the teacher.

In the secondary art program a successful product is equal in importance to the creative process. However, methods for improved work and pupil growth should be developed as the student gains security in creative expression.

In kindergarten and the elementary school the elements and organization of design are experienced, but not named. Formal teaching at this level is not only useless but retards children in normal creative growth because their reaction to line, color, form, value and texture is emotional and spontaneous. Children should discover for themselves by experiencing, designing and evaluating. The child as artist is not to be compared to the adult as artist. Young children have a natural ability to design because of their feeling for movement or rhythm and because they paint, model and construct as they "feel." This should be encouraged in an atmosphere of freedom—freedom to express himself in his own way.

However, in grades 5 and 6, many children have lost the naive, imaginative way of expressing themselves due to more knowledge, to increased observation and sometimes to adverse criticism by others. They wish their work to be perfect, but lack the skills to make it so. To give boys and girls confidence at these grade levels, they will need increased guidance gained through evaluation and suggestions from the teacher. The teacher needs to discourage copying and to emphasize the importance of expressing themselves as they "feel" about a subject. Help for the teacher will be found in the following sections of the guide concerning guidance for painting and crafts.

In grades 7-12, as students gain in the ability to create, there is increasing need for improvement in the use of the art elements of line, color, form, value and texture in orderly and harmonious arrangements in art products so these students will feel their work is worthwhile. However, the increased skills should develop from the student's **own feeling and experimentation** with relationships of these art elements. Color problems should be solved by experimentation rather than by the color wheel. Good organization (composition or design) should be solved by a student's own **feeling** of what he needs in his work to better express his idea. Improvement through discussion will come during the evaluation of their own work and work of others.

In advanced drawing and painting or crafts the following art principles can be introduced gradually—**the meaning of rhythm, balance, emphasis, subordination, variation, opposition, unity and harmony**—as these are used in a work of art and in the design of clothing, homes, interiors, automobiles, airplanes and industrial products. Even in these advanced courses, elements and principles of design must be experienced as an integral part of the student's activities in order to be thoroughly understood.

In grade 7-12 students should be introduced to good design in dress, industrial products, architecture, landscaping, community planning and in the many other aspects of everyday life of which art is an integral part.

Art experiences can take place at all grade levels without drawing, painting and construction as in the following:

Discussions on grooming and dress.
Selecting and arranging flowers and exhibits.
Seeing, hearing and feeling beauty in environment both in nature and man-made things.
Getting acquainted with fine art which includes fine design and craftsmanship in three-dimensional art as well as in drawing and painting.

Practice in lettering should be done **when the need arises** for designing posters, cards, bookcovers, portfolios, or bulletin board displays. Then the activity has real meaning.

Group activities are recommended for social adjustment as in mural painting, puppetry, theater craft and decorating for school social affairs.

Change of activities or problems is suggested to keep pupils interested.

Teacher-pupil evaluation is important as work progresses and when it is completed to strengthen the art learning and insure continuous improvement and development. Have group evaluation to appraise the work of one another and to evaluate group projects.

Art provides emotional release, but using the art work of pupils to diagnose personality problems should be left to the trained psychologist or psychiatrist.

Approval of sincere efforts is given to develop self-confidence and awareness of themselves as worthwhile individuals.

Discussions are encouraged to improve personal appearance, grooming and posture in all grades, kindergarten through grade 12.

Special tasks may be assigned to individuals and to groups to develop responsibility.

Arrangement of room and furniture is planned to accommodate pupils of different size and provide room for traffic to cupboards and sinks.

Arrangement of exhibits by pupils in classrooms and other parts of the school building should be done to teach good design in display.

PROCEDURE FOR ART ACTIVITIES–SUMMARY

DRAWING, PAINTING AND CRAFTS

STIMULATING AND MOTIVATING

Teacher-pupil planning with emphasis on originality.

Demonstrating and/or showing examples of good art work:

Work of other pupils and adults.

Work of the masters in art.

Providing inspiration through field trips and excursions.

Providing inspiration through visual aids.

Exploring characteristics of materials.

Learning to use materials successfully.

Learning how to use tools properly.

Developing techniques necessary to express the idea.

Experimenting and inventing.

Making choices in line, color, value, texture and form.

Solving problems and organizing.

Evaluating as work progresses.

Carrying the idea to completion.

VISUALIZING AN IDEA

Expressing an idea from imagination, emotion or experience.

EVALUATING

Recognizing good parts of the design.

Suggesting improvements if necessary.

EVALUATION BY TEACHER AND PUPIL

There are no rigid rules when judging creative expression. The creative and aesthetic development of boys and girls is first in importance. Growth in their ability to use line, color, form (shape), texture and value (dark and light) in harmonious arrangement is also to be considered.

The teacher will find help for evaluating art products in the following sections:

Drawing and Painting: Kindergarten Through Grade 6.
Drawing and Painting: Grades 7-12.
Decorative Design or Pattern.
Design for Crafts.

PROCEDURE

Let the pupil evaluate his own work when he is mature enough to make decisions and think for himself about his picture or craft. At the beginning of the kindergarten year very little evaluation is necessary.

However, it becomes increasingly important as the child matures.

Let the whole class participate in the appraisal of murals or other group projects and evaluation of the work of one another.

Time should be taken for evaluation as the activity progresses as well as when it is finished. Help the pupil to do his own evaluating by asking him a few questions. Ask him where he thinks his work needs improvement, then make suggestions.

Comment on good qualities as well as on those that need improvement. Try to find the good points first which may be the idea, organization or use of color. Respect the pupil's sincere effort even though technique needs improvement. Realistic representation is not essential to a good design in a painting or craft. Praise creative efforts and discourage copying or borrowing ideas.

Judge each picture or craft on its own merits, not in comparison with another's work.

The teacher should keep a record of the pupil's growth. This can be done by saving some of his work during the year. He should be aware of his own progress.

QUESTIONS FOR TEACHER-PUPIL EVALUATION

Was the idea fully expressed?

Could the work be made more interesting?

Was the material used successfully?

Are the material, shape and/or decoration of the object suitable for its intended use?

Were tools used properly?

Was there a good choice of line, shape, color, texture and value (dark and light) for their arrangement in the painting or craft?

Were necessary skills learned and techniques developed to better express the idea?

Does the work show improvement as compared with work done previously?

EVALUATION OF PUPIL GROWTH BY THE TEACHER

Has the pupil gained in sensitivity to nature and his environment as shown by interest and curiosity, in conversation and by ideas expressed in paint and other materials?

Does he express in his own way his ideas, feelings and emotions in original drawings, paintings and crafts? (Impressions and ideas gained from his own experiences).

Is he using a variety of art materials and techniques as he gains in the ability to create?

Has he gained in the ability to appraise his own work and the work of others?

Is he gaining in independent thinking?

Can he solve his own problems?

Is he doing his best at his level of development?

Does he assume responsibilities connected with art work?

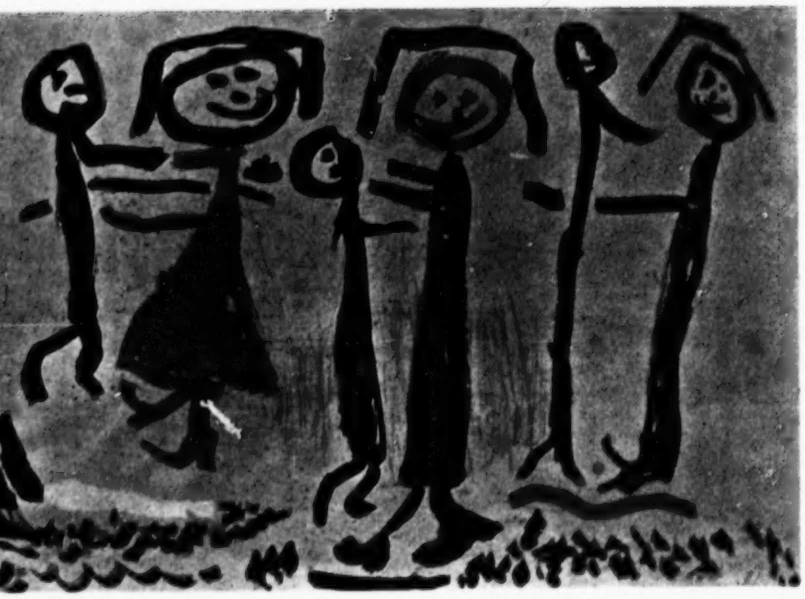
Is there evidence of aesthetic growth as shown by his enjoyment and satisfaction in creating something worthwhile?

Does he work well with others in group projects?

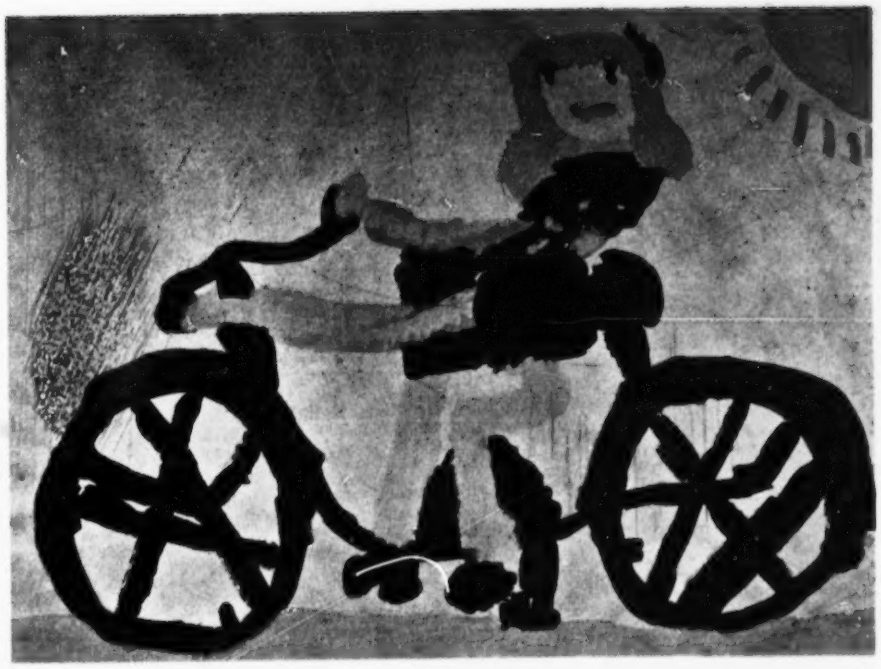
Is there evidence of increased appreciation of fine examples of art by his interest and ability to appraise them?

Are art activities helping him to gain in self-awareness, self-direction, self-discipline and self-confidence along with the other qualities listed above?

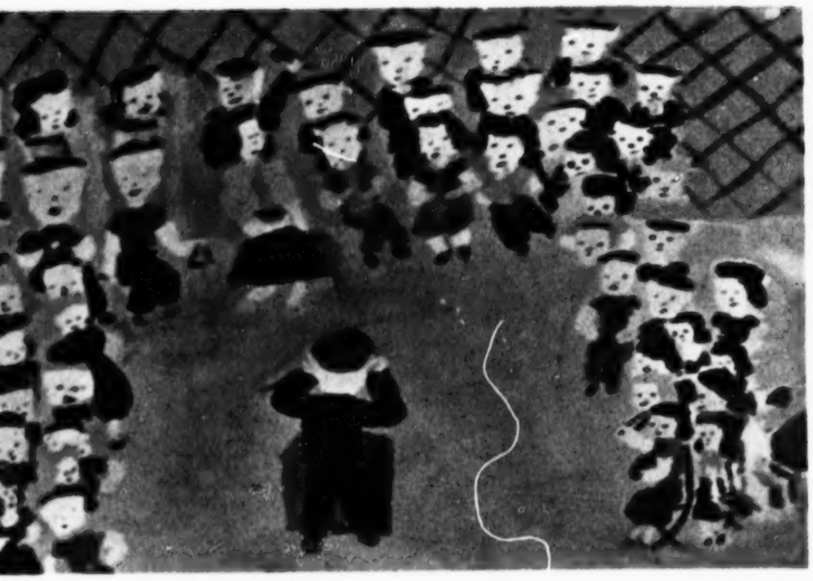
Is there evidence of art carrying over into his everyday life at home and in the community as determined by things brought to class, by parent conferences and in conversation?



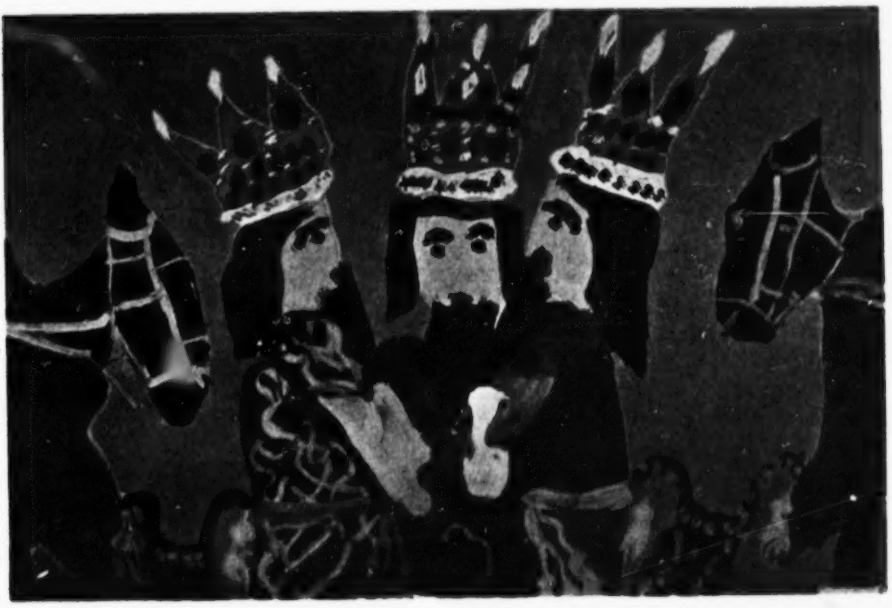
mmy and Daddy Dancing—Age 5



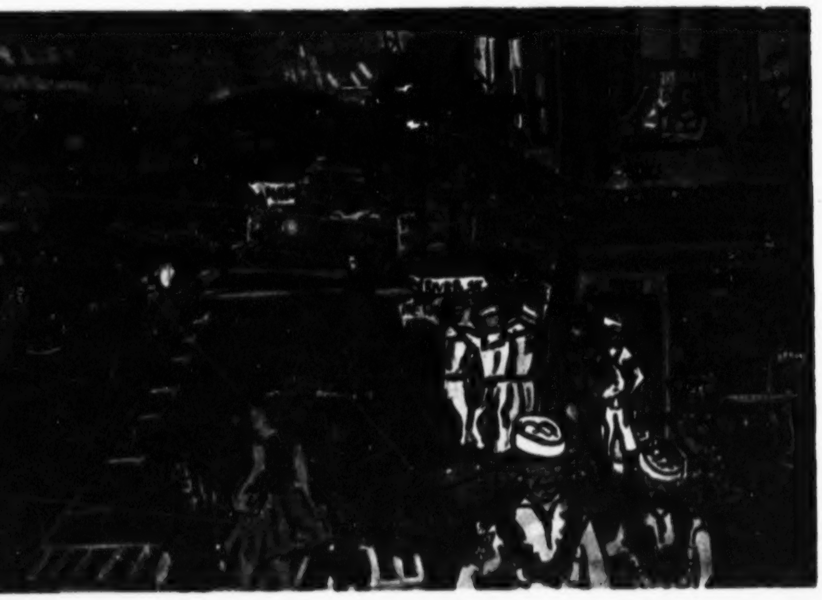
My Bicycle—Age 7



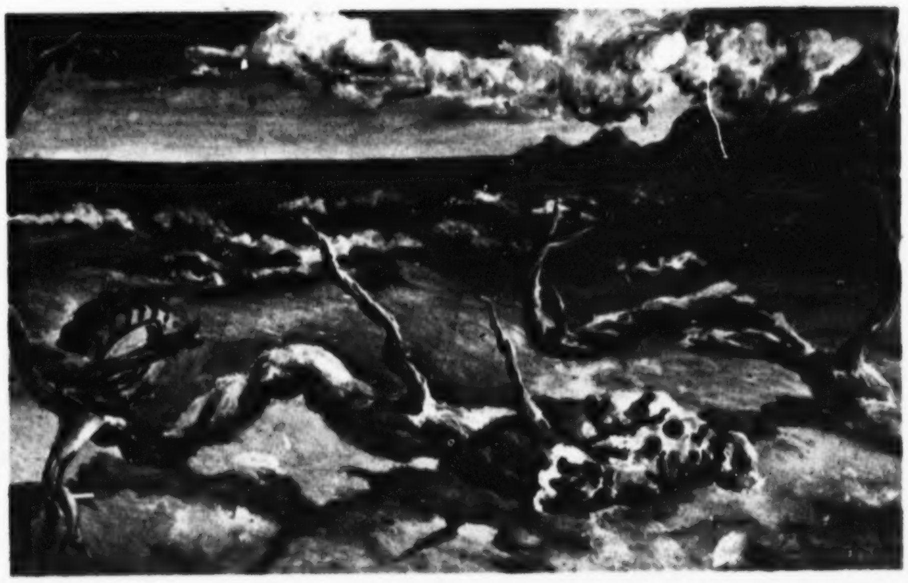
r Class Singing—Age 9



The Three Kings—Age 11



cer Street—Age 14



Maui Shore—Age 15

CHARACTERISTICS AND EXPECTED OUTCOMES AT DIFFERENT GRADE LEVELS

In this section, the characteristics of pupils at various grade levels are described to aid the teacher in understanding developmental growth through art. Suggestions are given concerning experiences of pupils as a basis for stimulating creative art activities. Emphasis is suggested for art learnings desirable for creative growth and aesthetic development, together with expected outcomes. Specific art activities may be selected from the Table of Contents.

KINDERGARTEN TO GRADE 6

The foundation of art experiences laid in the elementary schools is of utmost importance in developing a lasting interest in art that will carry over into early adolescence.

Ability to draw is not essential for the elementary teacher in developing an art program. Of more importance is the ability to inspire and stimulate the children and to evaluate their art work in terms of creative growth.

KINDERGARTEN AND GRADE 1

CHARACTERISTICS

- Great differences in children.
- Important words, "I" and "My."
- Self-awareness, individualists.
- Interested in immediate environment.
- Interested in playmates.
- Independent, but wanting guidance when needed.
- Wants love of parents and teacher.
- Wants encouragement, praise.
- Likes painting and construction.
- Imaginative, naive.
- Noisy and vigorous.
- Small muscles not developed.
- Short interest span.
- Art forms are as follows:
  - Abstract forms when first exploring the material.
  - Symbolic forms later to represent self and own experiences.

STIMULATION OF IDEAS

- Experiences pertaining to self, home, school.
- Discussion of experiences individually and in groups, share and tell.

EMPHASIS

Exploration of many media and processes during the year:

- Paint
- Chalk
- Crayon
- Clay
- Wood
- Paper
- Stick and vegetable printing
- Making simple puppets
- Painting
- Modeling
- Constructing
- Weaving with cloth strips and yarn

Several materials available for exploration, not too many at one time:
- Too much choice may lead to confusion.

Enjoyment of color through discovery.

Unconscious experience with line, form, color, texture and rhythm:
- In selecting and arranging.
- In "seeing" beauty.
- In art activities.

Tactile experience (how things feel), rough or smooth.

Working with others on murals and puppetry.

Coordination development by working free and large:
- Tearing
- Cutting
- Pasting
- Fastening
- Weaving
- Hammering
- Painting
- Constructing

Cleaning up and proper handling of materials and tools.

APPRECIATION

Work of other children and adults.

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Bright, bold, gay paintings, strong in color: abstractions; pictures with strong decorative patterns; paintings of children and animals, chosen for visual rather than sentimental appeal.

Examples: "Fish Kite" by Kuniyoshi, "Games" by Miro, "Don Manuel Osorio" by Goya, "Pineapple and Anemones, 1940" by Matisse, "Deer" by Sosen, "Central Park Zoo" by Prendergast.

EXPECTED OUTCOMES

Ability to create with materials and tools.
Large muscles developed through working large.
Adjustment to others in the group and to the environment.
Follow simple directions.
Sensitive to things seen, heard and felt:
  Seeing, hearing, feeling, smelling, tasting.
Growth in independence.
Simple, imaginative art work.

GRADES 2, 3, AND 4

CHARACTERISTICS

Important word, "We":
  "We are growing up."
Desires to cooperate.
Active, energetic.
Emotional reaction high.
More independent of teacher and parents.
Interested in friends.
Enjoys art activities, two-and three-dimensional.
Desires praise.
Gradual growth in interest of "how to do things."
Needs more guidance in art:
  To develop clearer concepts.
  To learn necessary skills.
Gradual growth in interest beyond immediate environment:
  Adult world and community.
Growth in sense of realism in art forms.

STIMULATION OF IDEAS

Experiences pertaining to self, home, school and community.

Discussions of experiences individually and in groups:
  Sharing and remembering of "What we did and where."

EMPHASIS

Repetition of suggestions for Kindergarten and Grade 1.
Addition of activities listed in Table of Contents.
Developing initiative and leadership:
  "We like to do things our very own way."
  "How to do things the best we can."
Group activities, committees with careful teacher guidance.
Understanding line, shape, color, dark and light and texture in painting.
Evaluation:

  Filling the space or page.
  Different kinds of lines:
    Straight, slant, wavy, zigzag.
  Different sizes and shapes of things.
  Surprises in the mixing of colors:
    New colors, light and dark, bright and dull.
  How things feel (texture):
    How we can show it in painting.
  Repeating makes our eyes wander around.
  Repetition of lines, colors, shapes.
  Grouping as a natural development in drawing and painting:
    Objects in front of other things.
    Objects smaller than others to show depth or distance.

Selecting and arranging.
Seeing beauty in the butterfly, beauty in an airplane, beauty in rocks.
Care and respect for tools and property.

APPRECIATION

Repetition of suggestions for Kindergarten and Grade 1.

Primitive art; paintings that stimulate imagination and fantasy; pictures of children and animals.

Examples: Stone age cave paintings of animals, "Girl with a Watering Can" by Renoir, "Lady Jean" by Bellows, "Bird on a Branch" by Hsü Hsi, "The Juggler" by Chagall, "Infanta Maria Theresa" by Velasquez, "Landscape with Yellow Birds" by Klee.

Sculpture: Something that they can feel in wood, stone, clay and metal.

EXPECTED OUTCOMES

Increased skills in handling materials and tools.
Ability to plan, independent thinking.
Increased ability to organize.
Evaluates work of self and others.
Sensitive to things seen, heard and felt:
  Seeing, hearing, feeling, smelling, tasting.
Produces spontaneous simple art work in original

expression.
Succeeds in one or more art activities.

GRADES 5 AND 6

CHARACTERISTICS

Important word, "Our." "Our gang, club, friends."
Critical of own work:
  Not satisfied with own products.
  Wants everything perfect though lacking skills.
Beginning of physical changes for some pupils.
Longer interest span.
More observant, increased visual awareness:
  Works more in detail.
Desires praise.
Great variety in creative ability.
Enjoys art activities.
Increased ability to organize by grouping forms in pictures:
  Objects in front of other things.
  Objects smaller than others to show depth or distance.
  (Formal perspective is not taught.)
Draws and paints things in action.
Interested in a wider environment, acquiring more knowledge.
Works with more independence.

STIMULATION OF IDEAS

Experiences pertaining:
  To self, home, school, community.
  To people of other lands.
Discussions of experiences individually and in groups.

EMPHASIS

Repetition of suggestions for Grades 2, 3 and 4.
Addition of activities listed in Table of Contents.
Experience with a wide variety of materials and processes.
Originality. "We do not copy. We invent and explore."
Group activities by committees with chairmen:
  Research in books, but no copying.
Acquiring enough skill:
  For expression.
  For satisfaction with finished product.
Practicing on newspaper with line brush drawing to free inhibitions.
Expressing mood and feeling.
Learning more about color:
  Warm and cool colors and how to gray colors. Refer to section on Color under Drawing and Painting.
Selecting and arranging.
Evaluating own work often.
Drawing, painting and modeling people and animals at rest and in action:
  Pose children at rest and in action.
Care and respect for tools and property.

APPRECIATION

Repetition of suggestions for Grades 2, 3 and 4.

Paintings with action, movement, detail; Oriental brush drawings and paintings.

Examples: "The Fog Warning" by Homer, "Games" or "The Wedding Dance" by Brueghel, "Deer" by Sōtatsu, "Arearea" by Gauguin, "Francesco Sasseti and his Son" by Ghirlandajo, "St. George and the Dragon by Raphael.

Sculpture, ceramics, weaving.

EXPECTED OUTCOMES

Interested in finished product.
Desires more skills.
Ability to work longer on a project.
Works with more detailed and complex design.
Increased independent thinking.
Evaluates work of self and others.
Success and improvement in one or more art materials.

GRADES 7 TO 12

Art education during these years is exceedingly important because it is the last time many of the boys and girls have any opportunity to enroll in art classes. This is the time when the students should become conscious of the importance of good design in the tremendous number of products they see and use every day.

GRADES 7, 8 AND 9

Guidance at this critical time in the "growing-up" years of boys and girls requires a sense of humor, enthusiasm and a sympathetic understanding.

Early adolescence may come between grades 6 and 10 for some students; therefore teachers will expect great differences in maturity.

CHARACTERISTICS

Changing physical development:
  Restlessness, awkwardness and self-consciousness.
Great differences among students in

Size	Social adjustment
Muscular coordination	Individual maturity
Emotional stability	

Feeling of insecurity resulting in criticism of themselves and others.
Wishing to assert independence.
Wanting adult treatment.
Need of approval from adults.
Seeking approval of own group.
Greater awareness of self.
Increased interest in the world around them.
Recognition of adult accomplishments and accumulated knowledge, therefore critical of own efforts to express themselves.
Difference of interests of boys and girls.
Interest developing in the opposite sex.
Desire to learn new skills, to explore, to experiment and to create.

STIMULATION OF IDEAS

Experiences pertaining to life:
  Actual, emotional, imaginative.

EMPHASIS

Exploration and experimentation of many materials and processes.
Originality and good craftsmanship in all work.
Development of manipulative skills for a satisfactory product.
Ideas centered in immediate environment:
  Boys interested in adventure and sports.
  Girls interested in parties, dress and sports.
The magic of line, form, color and texture in design.
Importance of art for hobbies and avocations.
Care of materials and tools.

APPRECIATION

Work of other young people and adults.

Paintings with action, movement, detail; pictures with strong emotional appeal; paintings in a variety of media and in experimental techniques.

Examples: "A Sunday Afternoon on the Grande Jatte" by Seurat, "Starry Night" by Van Gogh, "Arnolfini and His Wife" by Van Eyck, "Adoration of the Magi" by Gozzoli (detail), "Lavinia" by Titian, "The Sleeping Gypsy" by Rousseau, "Dragonflies" by Ch'ien Hsüan.

Sculpture, ceramics, weaving, printing, mosaics, stained glass.

EXPECTED OUTCOMES

Discovers abilities in various media.
Interested in design in everyday life.
Satisfied with finished product.
Develops increased skills and independent thinking.
Develops hobbies.
Works more in detail in original design.
Succeeds in one or more art materials.
Develops confidence in ability to create.
Evaluates work of self and others.
Appreciates good design and craftsmanship.

GRADES 10, 11, AND 12

Many stages of development are found among students in the senior high school. Some are still in early adolescence and will need the same consideration described for grades 7, 8 and 9. Many are young adults and will show characteristics listed below.

Guidance is important for those students with special interest and ability in art who may choose art as a vocation and for other students who wish to enroll in art courses.

CHARACTERISTICS

Great development in sensitivity to the world about them.
Emotional stability.
Physical strength.
Greater awareness of self, individuality.
Increased capacity to learn, reason and think.
Interest in vocations.
Interest in opposite sex.
Creative ability, desire to experiment.
Independence and self-assurance.
Tendency to be idealistic.

STIMULATION OF IDEAS

Experiences pertaining to life:

Actual, emotional, imaginative.

EMPHASIS

Increased power to use good design in art products.
Originality and good craftsmanship in all work.
Appreciation of good design in everyday living:
  Knowledge of art needs of home and community.
The universality of all truly creative art produced in the past and present.
Need of the individual to develop creatively:
  To acquire enough technical skill to satisfy his needs.
  To grow in technical skill to aid in expressive power.
Discovery and encouragement of those with unusual ability.
Counseling concerning art as a vocation.

APPRECIATION OF THE ARTS OF THE PAST AND PRESENT

Repetition of suggestions for Grades 7, 8 and 9.

Paintings chosen to develop sensitivity to line, form, color and composition.

Examples of various movements or styles in painting.

The arts of various historical periods as they relate to forces and events of their time.

Examples: "Journey of the Magi" by Sassetta, Sistine ceiling frescoes by Michelangelo, "The Artist in his Studio" by Vermeer, "Card Players" by Cézanne, "The Purple Robe" by Matisse, "Maine Islands" by Marin, "Vaudeville Performers" by Ben Shahn, "Bamboos" by Wên-Chêng-Ming.

Examples of many different types of architecture, industrial arts and handcrafts to illustrate good design and craftsmanship.

EXPECTED OUTCOMES

Discovers special interests in art.
Plans simple, refined and original design in art products.
Interested in design of all phases of community life.
Develops hobbies for leisure time.
If talented, may choose art as vocation.
Evaluates.

RESOURCES

The Code used for books is as follows:

- *** — Recommended for school libraries**
- **# — Listed previously in Resources**
- **L.H. — Library of Hawaii, Music and Art Room**
- **A.A. — Honolulu Academy of Arts, Educational Department**
- **A.D. — Studio of the Art Director**

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Schaefer-Simmern, Henry. *The Unfolding of Artistic Activity.* Berkeley, California: University of California Press, c1948. A.A.

Ziegfeld, Edwin. *Education and Art.* New York: UNESCO, Columbia University Press, c1953. A.A.

APPRECIATION

Elementary and Secondary

Chase, Alice Elizabeth. *Famous Paintings, An Introduction to Art for Young People.* New York: Platt and Munk Company, Inc., c1951. L.H., A.A.

Gibson, Katherine. *Pictures to Grow Up With.* New York: Studio Crowell, Inc., c1948. L.H., A.A.

Hillyer, V. M., and Huey, E. G. *Child's History of Art.* New York: Appleton-Century-Crofts, c1944. L.H.

*Janson, H. W. and Janson, Dora Jane. *The Story of Painting for Young People, From Cave Painting to Modern Times.* New York: Harry N. Abrams, Inc., c1952. L.H., A.A.

Weisgard, Leonard. *Treasures to See, A Museum Picture-Book.* New York: Harcourt, Brace and Company, c1956. A.A.

Secondary

Cheney, Sheldon. *Primer of Modern Art.* New York: Liveright Publishing Corporation, c1958. L.H.

Craven, Thomas. *The Rainbow Book of Art.* New York: World Publishing Company, c1956. A.A.

*Faulkner, Ray, Ziegfield, Edwin and Hill, Gerald. *Art Today, An Introduction to the Fine and Industrial Arts.* New York: Henry Holt and Company, c1941. L.H., A.D.

Gardner, Helen. *Art Through the Ages.* New York: Harcourt, Brace and Company, c1948. L.H., A.D.

*Janson, H. W. and Janson, Dora Jane. *The Picture History of Painting, From Cave Painting to Modern Times.* New York: Harry N. Abrams, Inc., c1957. A.A.

Riley, Oliver L. *Your Art Heritage.* New York: McGraw-Hill Book Company, Inc., c1952. L.H., A.D.

PHILOSOPHY AND ART ACTIVITIES

Elementary and Secondary

*D'Amico, Victor; Wilson, Frances and Maser, Moreen. *Art For the Family.* New York: Simon and Schuster, c1954. A.A., A.D.

*D'Amico, Victor. *Creative Teaching in Art.* Scranton, Pennsylvania: International Textbook Company, c1953. L.H., A.A., A.D.

*de Francesco, Italo L. *Art Education, Its Means and Ends.* New York: Harper and Brothers, c1958. A.A., A.D.

Holmes, Kenneth and Collinson, Hugh. *Child Art Grows Up.* New York: Studio Crowell, Inc., c1952. A.D.

Wickiser, Ralph L. *An Introduction to Art Education.* Yonkers-on-Hudson. New York: World Book Company, c1957. L.H., A.A., A.D.

Winslow, Leon Loyal. *The Integrated School Art Program.* New York: McGraw-Hill Book Company, c1949. A.D.

Elementary

Cole, Natalie Robinson. *The Arts in the Classroom.* New York: John Day Company, c1954. L.H., A.A., A.D.

*Denver Public Schools, Department of Art Education. *Grade Level Art Experiences: Growth and Development in Art* (Chart); *How Children Develop in Picture Making; How Children Develop in Expressing Three-Dimensional Form.* Denver, Colorado: Denver Public Schools, c1954-1956. A.A., A.D.

Erdt, Margaret-Hamilton. *Teaching Art in the Elementary School.* New York: Rhinehart and Company, c1954. A.D.

Gaitskell, C. D. *Art and Crafts in Our Schools.* Peoria, Illinois: Charles A. Bennett Company, Inc., c1949. L.H., A.A., A.D.

*Gaitskell, Charles and Gaitskell, Margaret. *Art Education in the Kindergarten.* Peoria, Illinois: Charles A. Bennett Company, Inc., c1952. L.H., A.A., A.D.

Gaitskell, Charles and Gaitskell, Margaret. *Art Education for Slow Learners.* Peoria, Illinois: Charles A. Bennett Company, Inc., c1953. A.A., A.D.

Gregg, Harold. *Art for the Schools of America.* Scranton, Pennsylvania: International Textbook Company, c1947. L.H., .A.A.

**Growing with Art Series. Books One Through Eight.* Chicago, Illinois: Benjamin H. Sanborn and Company, c1951. A.A., A.D.

McLeish, Minnie and Moody, Ella. *Teaching Art to Children.* New York: Studio Crowell, Inc., c1953. A.D.

The National Elementary Principal (Bulletin). *Art in Our Schools.* Washington, D. C.: National Education Association, c April, 1951. A.A., A.D.

Schultz, Harold A. and Shores, J. Harlan. *Art in the Elementary School.* Urbana, Illinois: University of Illinois. Office of Publication, c1948. A.D.

Secondary

**Art for the High School. Growing with Art Series. Drawing, Painting and Crafts.* Syracuse, New York: The L. W. Singer Company, Inc., c1957. A.A., A.D.

Baltimore Department of Education. *Art Resource Materials for Secondary Schools.* Baltimore, Maryland: The Department, c1953. A.A.

Columbia University. *Art Education Today, 1951-1952 Secondary School Program.* New York: Columbia University Press, c1953. A.A.

*Denver Public Schools, Department of Art Education. *Creative Art in the Secondary School.* Denver, Colorado: Denver Public Schools, c1956. A.D.

*Gaitskell, Charles and Gaitskell, Margaret. *Art Education During Adolescence.* New York: Harcourt, Brace and Company, c1954. A.A., A.D.

MAGAZINES

Elementary and Secondary

**Arts and Activities.* 8150 North Central Park Blvd., Skokie, Illinois.

Design. 337 South High Street, Columbus 15, Ohio.

**School Arts.* Printers Building, Worchester 8, Massachusetts.

Secondary

**Ceramics Monthly.* 4175 North High Street, Columbus 14, Ohio.

**Craft Horizons.* 29 West 53rd Street, New York 19, N. Y.

Films for Teachers

Primary	Title	Color	Time
	Meaning in Child Art	Color	10 min.
	Understanding Children's Drawings	Color	10 "

Elementary	Title	Color	Time
	Children are Creative	Color	10 min.
	Report in Primary Colors	Color	33 "

MUSEUMS

***The Honolulu Academy of Arts* offers the following educational services to schools:**

Classes of students from kindergarten through college may come during the school day for special exhibitions, lectures and tours of the museum. These visits may be planned to promote general appreciation or to relate to particular subjects of study.

Faculty groups are also welcome to come to the Academy for lectures, exhibitions and tours.

Demonstrations of art techniques are scheduled periodically for teachers and students.

Appointments for the above activities can be arranged through the Educational Office.

Courses for teachers offering in-service Department of Public Instruction or University credit are given.

Art Teaching Conferences for both classroom and art teachers are held.

A Consultant Service is available to both classroom teachers and art teachers.

The Lending Collection. During the school year teachers may borrow the following material: objects from many countries, framed and mounted pictures, prints, posters, children's art, books and slides.

A catalogue of the lending collection material is available and may be found in many school Libraries.

Material will be sent to the other islands on request.

Bishop Museum

Tours by appointment.

ART AS AN INTEGRAL PART OF GENERAL EDUCATION

CORRELATION WITH OTHER SUBJECT AREAS

MEXICO'S FLOATING GARDENS

Mexico—Grade 6

The general educational needs of pupils may be met by correlating concrete art expression with the learnings of other areas. Social studies, literature and other subjects become more meaningful and enriched because "on-going" interests motivate the art activities.

A rich background of information and research in any unit of study is necessary before the pupils attempt **creative** art activities connected with it. Integration should develop out of the study because the pupils **want** to do it. There may be individual and group activities.

In correlation art learnings must be emphasized as well as the other subject matter. The activity must have meaning for the students and not be just busywork. In the self-contained classroom some of the art activities will be independent of the other subject matter areas being studied. These will be the individual expressions unrelated to other subjects. Everything cannot be correlated.

There is no value to the student in copying or remembering the exact pictures in the books. Originality must take precedence over photographic representation. Objects of clay or other materials must also be the pupil's very own creation. Individual differences and interests are to be considered when planning art activities since some students are more successful in clay or other materials than in drawing and painting.

Any of the suggestions for drawing, painting and craft processes in the guide may be used in correlation. See guides of other subject areas.

KINDERGARTEN TO GRADE 6

Art activities with integrated learning are an important part of everyday life in the classroom for kindergarten and grades one to six.

KINDERGARTEN AND GRADE 1

At first many of the art products will be unrecognizable to adults but **might** be named by the children. As children mature, illustrations, murals and decorating with design (pattern) may be integrated with stories, poems, music, rhythm activities, science, health, games, family, occupations, community helpers and aviation.

SOCIAL ADJUSTMENT

In the kindergarten children work primarily as individuals. Later on, as members of a small group, children may work together on a large piece of wrapping paper.

Children play or manipulate using lines, forms and colors with crayons, colored chalk, colored paper or paint.

ACTIVITIES

Paint to music:
  Play a record, sing or hum preceding and during the activity.
Dance to music or beat the rhythm:
  Express the feeling and motion in painting.
Illustrate stories, poems, other interests or ideas from imagination.
Design murals:
  Seasons
  Holidays
  Family life
  Health
  Community helpers
  Stories
Construct in three dimensions, developing from the purely manipulative stage to the recognizable stage:
  Clay for abstract forms, their own invention.
  Clay for dishes, animals, people, insects, sea life, birds.
  Scraps of wood glued together for people, animals, birds, houses, airplanes, imaginary constructions.
  Scraps of wood fastened together with nails.
  Cardboard boxes glued together for trains, automobiles, houses, airplanes, imaginary constructions.
  Puppets: Stick, paper bag or other types suitable for age level.

FAMILY LIVING

Arrange doll furniture and screens, experimenting with design.
Paint large paper to cover screens for wall paper or wall texture.
Take excursions to see different kinds of houses and colors.
Discuss wood, brick, stone and combinations for building:
  Need for doors and windows.
Discuss occupations:
  Painters, carpenters, bricklayers.
Paint large paper to cover outside of screen:
  Represent wood, brick or stone.
Decorate cloth for curtains:
  Stencil with crayons or stick print with paint.
Make dishes of clay, glaze and have fired.
Make a garden.

SCIENCE

Take excursions on the school grounds and in the neighborhood:
  Observe color and design in nature.
Collect leaves of different shapes.
Collect seedpods, twigs, rocks and insects.

AVIATION

Paint pictures and murals of airport and airplanes.
Make airplanes of wood or cardboard boxes.

PAINTING TO MUSIC

Listen to record or sing.
Express impressions with bodily movement.
Listen again while painting.

HOLIDAYS

Children express own reactions, **no patterns:**
  Painting and mural making.

Free paper cutting and tearing.
Working with clay or other materials.
Collage greeting cards.

Aloha Week:
- Floats in parade, hula dancers (paintings).

Halloween:
- Paper or paper bag masks.

Thanksgiving:
- Dinner, turkeys (paintings).

Christmas:
- Ornaments and decorations.
- Angels and nativity figures of clay and in paintings.

Valentine's Day:
- Valentines using crayon, paint, cut paper or collage.

Easter:
- Batik easter eggs with one dye dip, egg trees.
- Easter baskets of paper, banana or lauhala bark.

Lei (May) Day:
- Lei women, girls in muumuus (paintings).

Vacation:
- Swimming, sea life (paintings).

APPRECIATION

Display and discuss abstract and nonobjective paintings of local and other artists.

Little children accept these because of no preconceived idea that everything must be realistic.

Paintings of subjects pertaining to units or activities: "The Cook" by Vermeer, "Mother and Children" by Renoir, "The Gourmet" and "Child with a Dove" by Picasso, "Doll Festival" by Eishi, "Madonna of the Chair" by Raphael.

GRADES 2, 3 AND 4

ILLUSTRATIONS INCLUDING MURALS

For:
- Stories
- Poems
- Songs
- Games
- Science
- Health
- Industry
- Aviation

Holidays and music.
- See suggestions for Kindergarten and Grade 1.

Charts for reading and learning to count.

SIMPLE POSTERS

Attach lettering at top or bottom of child's painting.

CONSTRUCTIONS

Work in three dimensions:
- Houses of cardboard or wood for community unit.
- Puppets for community helpers or characters of stories.
- Figures of clay.
- Figures and relief maps of papier-mâché (Grade 4).
- Dioramas.
- Booklets and folders.
- Rhythm band instruments.

APPRECIATION

Paintings of subjects pertaining to units of study: "The Postman Roulin" by Van Gogh, "The Fifer" by Manet, "Woman Peeling Apples" by De Hooch, "The Crau: Market Gardens" by Van Gogh, "View of Fuji" (from the 36th Station on Tokaido) by Hokusai, "The Annunciation" by Fra Angelico.

Architecture: pictures of various types of shelter.

Costume: pictures or examples of many types, emphasizing texture, color and decorative design.

GRADES 5 AND 6

ILLUSTRATIONS INCLUDING MURALS

- Holidays, children's own reactions.
- Social studies
- Safety
- Songs
- Maps, illustrative
- Health
- Stories
- Poems
- Industry
- Aviation

POSTERS

Correlate posters with classroom, school and community projects.

CONSTRUCTIONS

Work in three-dimensions:
- Clay or papier-mâché figures of people of other lands.
- Papier-mâché relief maps.
- Cardboard, straw or wood houses of other lands.
- Dioramas.
- Booklets and folders.

DESIGN TO MUSIC

Listen to record or sing.

Express impressions with bodily movement.

Discussion: transferring impressions to painting.

Pupils give suggestions for expressing:
- Tempo, fast or slow movement.
  - Lines or shapes moving fast or slowly.

Loud and heavy or soft and delicate passages.
  Heavy or light pressure of brush.
High tones or low tones.
  Light colors or dark colors.
Shrill tones or quiet tones.
  Bright colors or delicate colors.

Discuss individual reactions.
  How it makes one feel: happy, sad, gay, calm.

Listen to record or song again while painting.

Use one brush or two brushes, one in each hand.

Result: Pupil's own reaction to the music, emotions and feelings expressed in pupil's own way.

APPRECIATION

Paintings of subjects pertaining to units of study: "Mrs. Freake and Baby Mary" by an anonymous American primitive painter, "Paul Revere" by Copley, "Boone Escorting Pioneers" by Bingham, "Flower Vendor" by Rivera, "Coffee Bearers" by Portinari, "Two Cranes" by an anonymous Chinese painter (15th century), "Seascape in Storm" by Sesson.

Architecture: homes and public buildings of colonial and modern America and the Orient.

GRADES 7 TO 12

In grades seven to twelve art activities correlated with other subjects will enable a greater number of students and teachers to enjoy additional art experiences. In this way students with superior ability may be discovered who are not enrolled in art classes. This is especially pertinent at this time in secondary education with the increase in required subjects.

Correlation might be as follows:
  Stimulated and experienced in the art room.
  Grow out of and be carried on in some of the other departments.
  Motivated in one department and produced in another. This will necessitate careful teacher-pupil planning and conferences between teachers in both departments.

With the consent of other departments, a few art students at a time may go to sketch the other students in action at sewing, farming, football, swimming, dancing and working in shops.

ACTIVITIES

MATHEMATICS

Design for leather, wood, weaving, folder and bookmaking projects:
  Figure the size and cost of materials.

Compute amount of materials needed for costumes and stage sets.

Measure for charts.

Measure and cut mats for mounting drawings and paintings.

Draw to scale for model houses, stage sets and murals.

Show famous paintings "Abstraction" by Kandinsky, "Toys of a Prince" by Chirico, Cubist works by Braque and Picasso, abstractions by Mondrian.

HOMEMAKING

Design clothing in the art room and sew them in homemaking.

Or design and sew in homemaking with help from art department.

Design for interior decoration, home planning, landscaping.

Create design for stitchery.

Screen, block print and stencil fabrics.

Show famous paintings: "Young Mother Sewing," by Cassatt.

INDUSTRIAL ARTS

Design furniture in art and construct it in shop.

Or design and construct in shop with help from art department.

Make picture frames and silk screen frames.

Construct stage sets.

Make architectural drawings.

Make miniature model homes and buildings.

Work in wood carving, ceramics and metal work.

MUSIC

Design paintings and murals with themes pertaining to music.

Paint to music in the art room. See suggestions for Grades 5 and 6.

Design covers for record albums and original compositions.

Design posters and program covers for musical events.

Show famous paintings: "Two Girls at the Piano" by Renoir, "Playing Angels" from the Ghent Altarpiece by Van Eyck, "Chopin" by Delacroix, "The Concert" by Terborch, "The Musician" by Chagall, "Three Musicians" by Picasso.

DRAMATICS

Design and construct costumes, scenery and props in the art room for school productions.

Or costumes may be sewed in homemaking.

Design posters and program covers for productions.

Design for stage: miniature sets related to a production.

Show famous paintings: "The Drama" by Daumier, "Theater Box" by Degas, "Italian Comedians" by Watteau.

PHYSICAL EDUCATION AND HEALTH

Pose students in characteristic positions of sports:
  Draw, paint or model.

Make a mural for the physical education building.

Paint pictures of pupils dancing and in sports.

Make posters for health program.

Show famous paintings and sculpture: "Two Dancers" by Degas, "The Discus Thrower" sculpture by Myron (Greek, 5thc. B.C.), "The Football Players" by Rousseau, "John Bigelen in a Single Scull" by Eakins, "Dempsey and Firpo" by Bellows.

SCIENCE

Plan and prepare exhibits for Science Fair.

Draw and paint ideas motivated in science classes.

Make charts.

Make models of papier-mâché or clay:

- Solar system
- Space ships
- Mountains
- Prehistoric animals
- Satellites
- Space stations
- Volcanoes
- Anatomy

Make illustrations for nature study.

Illustrate science notebooks.

Create design stylized from nature.

Show famous paintings: "Nicholas Kratzer, the Astronomer" by Holbein, "The Astronomer" by Vermeer, "The Anatomy Lesson" by Rembrandt, "The Exhuming of the Mastodon" by Peale.

FOREIGN LANGUAGE

Make decorations and murals for class dinner.

Make costumes: Roman togas, Spanish costumes.

Design posters.

Make puppets for puppet show.

Show famous paintings, prints and sculpture by artists of the country in which the language is spoken.

LITERATURE

Design paintings or murals, do modeling or sculpture motivated by stories, poems, and plays from books, radio or television.

Design miniature stage sets for plays being studied.

Design papier-mâché figures of characters in literature.

Write original stories and illustrate.

Make booklets for favorite poems.

Make puppets for a puppet show.

Show famous paintings: "Sir Thomas More" by Holbein, "Chaucer's Canterbury Pilgrims" (engraving) by Blake, "Aesop" by Velasquez, "Samuel Johnson" by Reynolds, "Hamlet" by Delacroix, "Dante and His Book" by Michelino, "Walt Whitman" by Eakins; also Greek sculpture of gods and heroes from mythology.

SOCIAL STUDIES

Use paintings and sculpture depicting family, religious and economic life to enrich the social studies program.

History: Pupils should realize that art was and is an important experience all over the world and not just things to display in museums. Ninety per cent of recorded history is in art form.

Visit art galleries or a museum if available.

See originals or reproductions of art forms.

Show films, slides, filmstrips, books, magazines.

Make notebooks.

Show famous paintings: "Henry VIII" and "Jane Seymour" by Holbein, "Giuliano dei Medici" by Raphael, "Napoleon" by David, "Francis I" by Clouet, "Luther and his Friends" by Cranach, "The Night Watch" by Rembrandt, "Constantino Marching against Maxentius" by Piero della Francesco.

Paintings by Chinese, Korean and Japanese artists and Japanese wood block prints.

Geography

Make charts, booklets and folders:
  Maps and pictures cut from travel folders.

Design pictorial maps.
Make relief maps of papier-mâché.
Paint figures with costumes of other lands.
Make papier-mâché figures and costumes:
  People of countries studied.
Show famous paintings: "View of Toledo" by El Greco, "Tahitian Landscape" by Gauguin, "The Geographer" by Rembrandt, "The Mill at Wijk" by Ruisdael, "The Harvesters" by Brueghel.
Paintings by Chinese, Korean and Japanese artists and Japanese wood block prints.

Aviation

Design paintings and murals of the history of aviation.
Design imaginative pictures of space ships.
Design and/or construct original models of airplanes and airports for the present and future.
Make pictorial maps.
Show famous paintings: "The Fall of Icarus" by Brueghel, "Helicopter" by Doris Lee; also drawings of flying machines by Leonardo da Vinci.

RESOURCES

The Code used for books is as follows:

*** — Recommended for school libraries**
# — Listed previously in Resources
L.H. — Library of Hawaii, Music and Art Room
A.A. — Honolulu Academy of Arts, Educational Department
A.D. — Studio of the Art Director

BOOKS

Elementary

*Gregg, Harold. *Art for the Schools of America.* Scranton, Pennsylvania: International Textbook Company, c1947. L.H., A.A.

*Lord, Lois. *Collage and Construction in Elementary and Junior High Schools.* Worcester, Massachusetts: The Davis Press, Inc., c1958. A.A., A.D.

Schneider, Dawn E. *Correlated Art.* Scranton, Pennsylvania: International Textbook Company, c1951. L.H., A.A.

FILMS

Correlation with Social Studies and Art

Grade Level	Title	Color	Time
4-9	Sweden's Future Artisans	Color	14 min.
4-12	Mexican Olla Makers	Color	9 "
4-12	Mexican Potters	Color	11 min.
4-12	Mexican Village Copper Makers	Color	10 "
4-12	Weavers of the West—Navajo Indians	Color	11 "
4-12	Totems—Alaska	Color	10 "
5-12	Art and Life in Italy	Color	10 "
5-12	The Loom—Colonial Weaving	Color	10 "
5-12	Chinese Shadow Play	Color	11 "
7-12	Arts and Crafts of Norway	Color	13 "
7-12	Artisans of Florence	B & W	20 "
10-12	Picture in Your Mind	Color	16 "

Correlation with Science and Art

Grade Level	Title	Color	Time
K-12	Art and Motion	Color	17 "
5-12	Art in Our World	Color	11 "

Correlation with Mathematics and Art

Grade Level	Title	Color	Time
4-12	Donald in Mathmagic Land	Color	26 "

ART EDUCATION FOR GRADES 7 TO 12

SUGGESTED COURSE DESCRIPTIONS

Courses offered at a school will depend on interest and enrollment of students and facilities available.

ADVERTISING ARTS 1 and 2, 3 and 4

Commercial illustration, lettering, drawing, painting, layout. Figure drawing as it relates to design and fashion illustration. Emphasis on composition and principles of art in design. Screen and airbrush techniques.

CERAMICS AND SCULPTURE 1 and 2, 3 and 4

Handmade and wheel-thrown pottery, mold making, glazing and firing.

Sculpture in clay and other materials.

CRAFTS 1 and 2, 3 and 4

Choice, depending on interest, selected from the following: block and screen printing, ceramics, paper craft, papier-mâché figures and masks, weaving, creative stitchery, mosaics, mobiles, stabiles, bookmaking, folders, metal work, jewelry, sculpture, sand sculpture, batik, leathercraft, Hawaiian crafts, puppetry.

DESIGN IN EVERYDAY LIVING 1 and 2, 3 and 4

Introduction to design in any of the following: community planning, architecture, landscape architecture, interior design, furniture, costume and industrial arts. Developing appreciation by audio-visual means and excursions and/or by designing with painting media and constructing models.

DRAWING & PAINTING 1 and 2, 3 and 4, 5 and 6

Introduction to pencil, pen and ink, conte crayon, charcoal, pastel, chalk, water color, show card color and oil. Art principles introduced as students develop and progress. Figure, portrait, still life, landscape and imaginative drawing and painting (realistic, abstract or nonobjective). Individual and group projects.

EXPLORATORY DRAWING, PAINTING, CRAFTS grades 7 or 8. Required 1 semester.

Experience with many materials. Work in any medium depending on interest.

Art principles and techniques introduced as students need them and have gained security in expressing their own ideas. Crafts may include block and screen printing.

GENERAL DRAWING, PAINTING, CRAFTS grades 8 and/or 9, or grades 10-12

Continuation of exploratory drawing, painting, crafts and covering more fully the same basic areas.

GRAPHIC ARTS including textile printing 1 and 2, 3 and 4

Block and screen printing, etching and lithography.

METAL AND JEWELRY 1 and 2, 3 and 4

Work in copper, aluminum, silver, other metals and enamels.

PHOTOGRAPHY 1 and 2, 3 and 4

Emphasis on good lighting, composition and creative photography.

Elementary fundamentals: processing film, printing and enlarging.

THEATER CRAFT 1 and 2, 3 and 4

Creating puppets and marionettes, designing and constructing sets, scenery and costumes. Integration with dramatics classes.

CURRICULUM PLANNING FOR GRADES 7 TO 12

Curriculum planning for these grade levels is done by the principal and teachers to meet the needs of their students.

Exploration and experimentation of materials and media in both two- and three-dimensional activities are very important for grades 7, 8 and 9. This is provided for by the course Exploratory Drawing, Painting, Crafts.

Some students may wish to continue art experiences in which they became interested in the Exploratory Course. The course, General Drawing, Painting, Crafts, will meet the needs for this group.

Other students may wish to specialize. Elective courses may be offered for this group depending on interest and enrollment.

Planning for drawing, painting and crafts will be done by teacher and pupils. Discuss and plan for a semester's work and write the tentative plan on the blackboard.

EXPLORATORY DRAWING, PAINTING, CRAFTS

This course is required for one semester, grades 7 or 8. The choice of activities is dependent on interest, materials and equipment available. Consideration should be given to the possibility of accomplishment in one semester.

GENERAL DRAWING, PAINTING, CRAFTS

This course is usually offered by the small secondary school and is recommended in the large secondary school for those who wish to explore a variety of media.

Students will have had a semester of art in Exploratory Drawing, Painting and Crafts and should explore more fully the activities chosen.

SUGGESTIONS FOR EXPLORATORY AND GENERAL COURSES

Drawing and painting explored by entire class.

Crafts introduced by demonstrations and exhibits. Pupils make a choice and form interest groups. Grouping done by interest, experience or ability. After experience with one or more crafts, some students may wish to resume drawing and painting. Other students think better in materials they can twist, cut, mold or bend than they do in paint.

ELECTIVE COURSES

Elective courses for grades 8 and/or 9, 9-12 or 10-12 will depend on interest, enrollment and facilities. These elective courses will be chosen from the Suggested Course Descriptions previously listed.

ART APPRECIATION

Art appreciation is an integral part of all courses.

Part II

TWO-DIMENSIONAL ACTIVITIES

BLANK PAGE

DRAWING AND PAINTING

Drawing and painting probably provide the greatest possible degree of freedom to the individual in expressing his feelings, thoughts and ideas about his environment.

Drawing and painting are one of the oldest means of expression and communication. Some 20,000 years ago or earlier, probably the first pictures were made. The beautiful drawings and paintings of animals found in caves in France and Spain evolved over centuries. It is believed that the drawings were crude in the beginning and over a long period of time reached a maturity of skillful and beautiful art forms.

Man has continued up to the present day to record his life in many different materials, including drawing and painting. History depends on this to a very great extent to tell the story of man's accomplishments and ideas.

VALUES

Pupils are given the opportunity to express themselves in a means of communication other than the spoken or written word.

Pupils derive sensory satisfaction in the beauty of materials such as colors of paints and textures of paper. By experimentation and exploration they learn what they can do with these media.

Drawing and painting activities are an emotional and natural outlet.
Aesthetic appreciation is developed in the evaluation of one's own work and the work of others.
Coordination of mind and hands is developed.
Sensitivity to environment and life in general is stimulated.
Social consciousness is developed in group projects such as making murals.

DRAWING AND PAINTING IN KINDERGARTEN TO GRADE 6

Every child has creative ability to draw and paint according to his level of development and each child develops at his own rate of speed. Progress through the succeeding stages of development occur when the child is given sympathetic understanding by teacher and parents. The art work of children should not be judged by adult standards.

DEVELOPMENT OF CREATIVE GROWTH

The following stages do not necessarily unfold in each individual in the same order. The child may temporarily revert from any one stage to an earlier level of development or he may skip a stage. A teacher may also find children in all stages of development in one classroom.

Art age does not always coincide with chronological age. For example, an eight-year-old child, because of his individual differences and experience may be at either a younger or older level of maturity in drawing and painting.

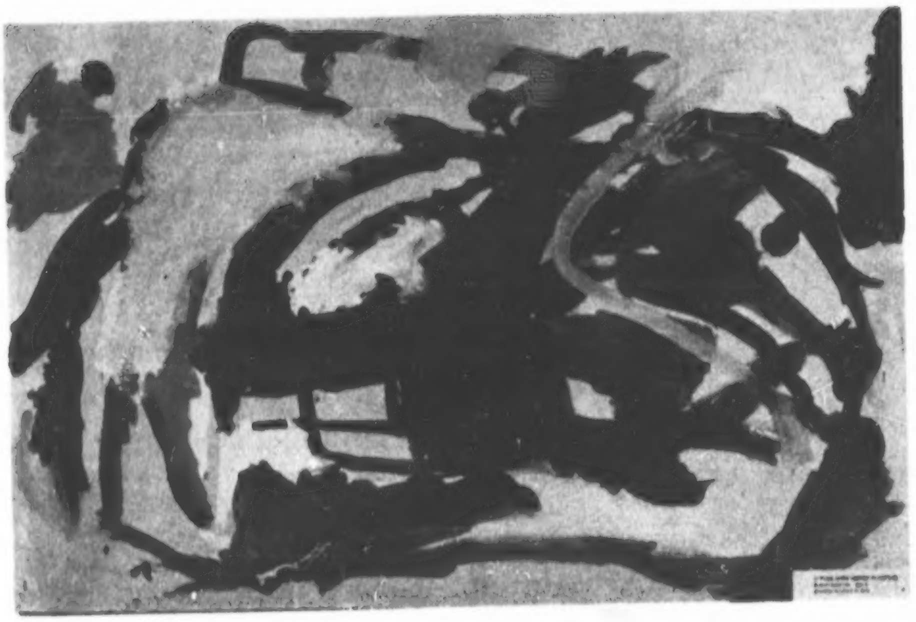
MANIPULATIVE STAGE

In the manipulative stage the child is getting acquainted with the material while exploring and developing his own techniques. This type of drawing and painting looks like scribbling and masses of color.

Sometimes he tells a story about his painting even though it may not be recognizable to others.

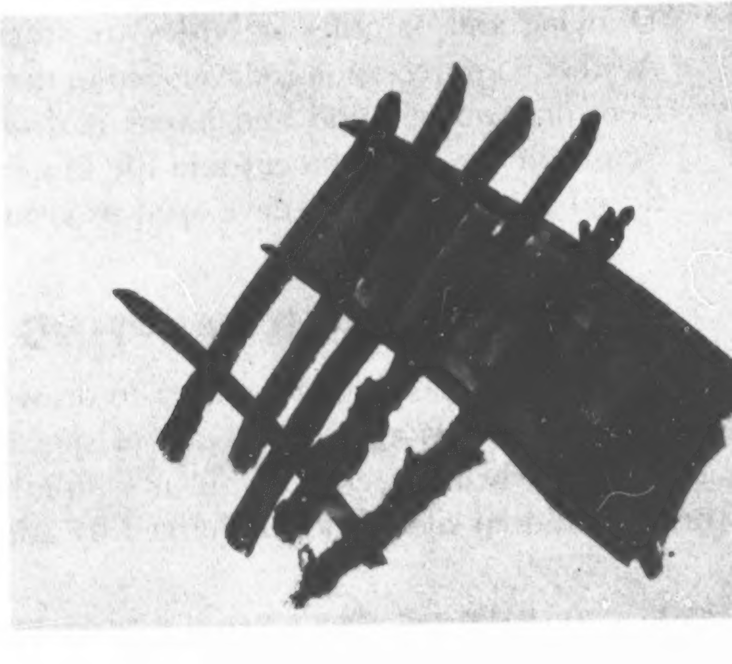
In another stage the child begins to organize colors, lines and shapes in a definite design or plan, but the picture has no title.

Manipulative Stage—Age 3



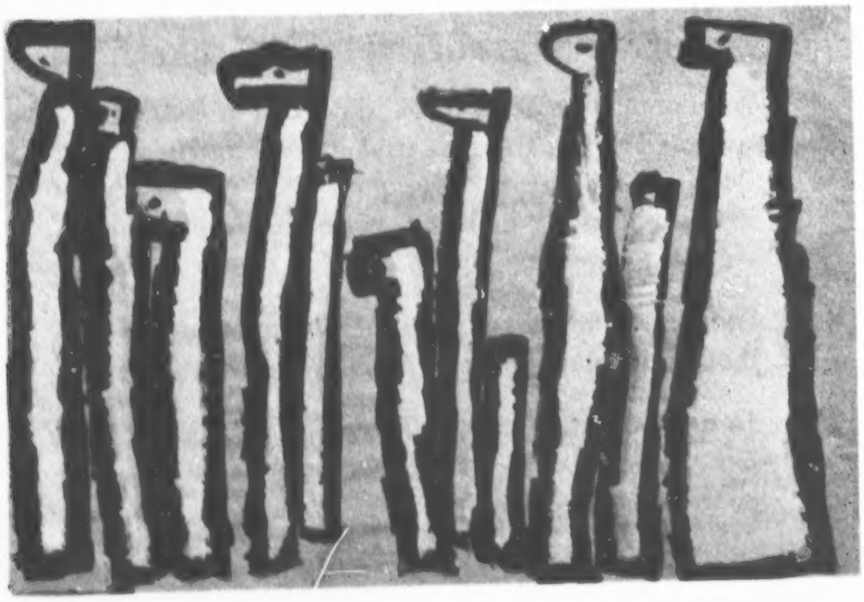
"A Tiger Chasing Himself Around in Circles"
Manipulative Stage—Age 5

Organizing Colors, Lines and Shapes—Age 5
Manipulative Stage—Age 5

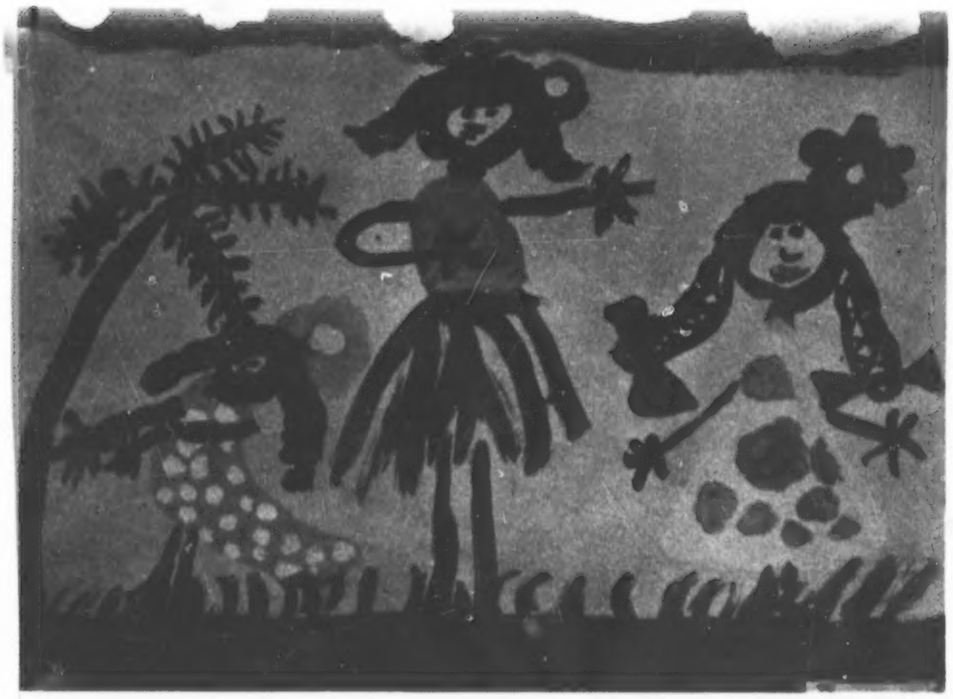


SYMBOLIC STAGE

The symbolic stage finds him becoming more aware of the things in the world around him. He uses symbols to represent the things he sees. At this period of development the objects and figures in the drawing or painting usually can be recognized. Colors chosen are usually not the natural colors of objects.



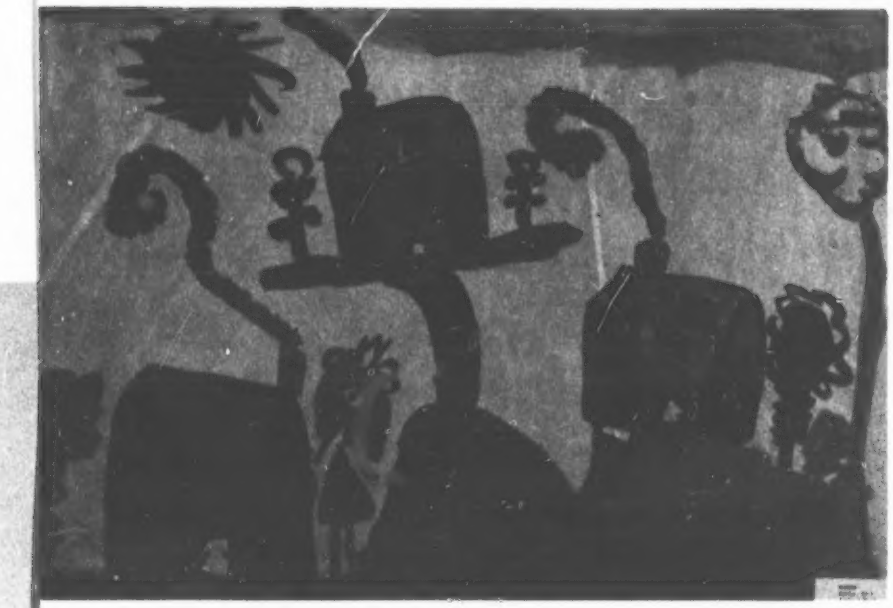
"Peter, Peter Pelikan (Story)"
Symbolic Stage—Age 5



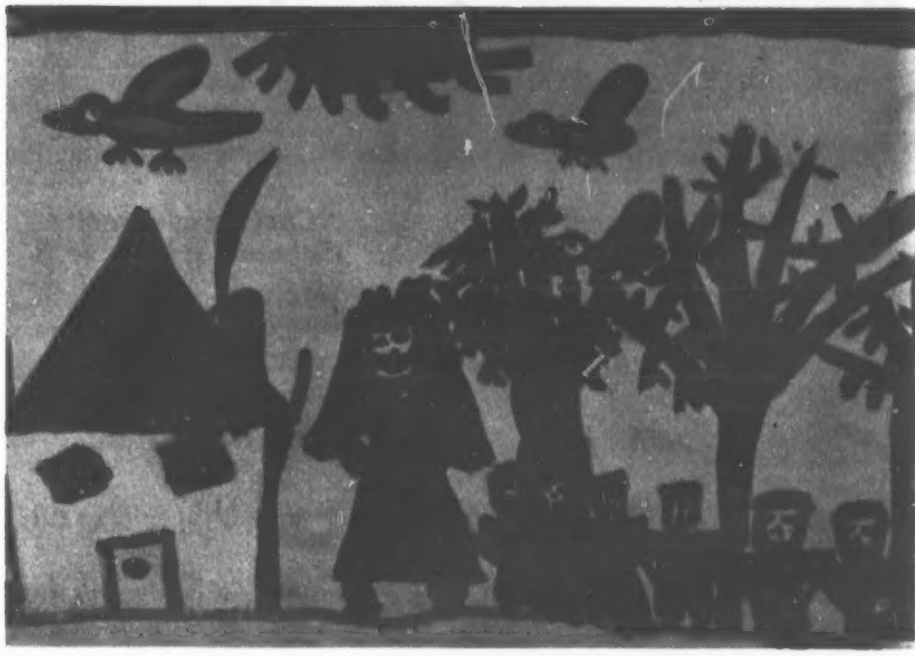
"Hula Girls"
Schema #1—Age 8

Children place figures and objects in the space in their own way. This arrangement is called schema, some examples of which are listed as follows:

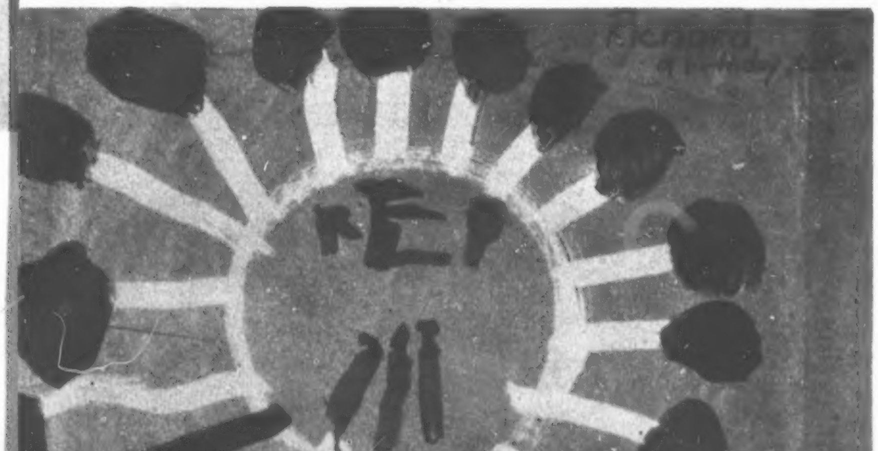
1. All objects on one base line and sky only at top of picture.
2. Objects on more than one base line.
3. Figures radiating around a center.
4. Objects out of proportion to each other.
5. Fold over, objects lying flat.
6. Transparent objects such as showing both the inside and outside of a house.



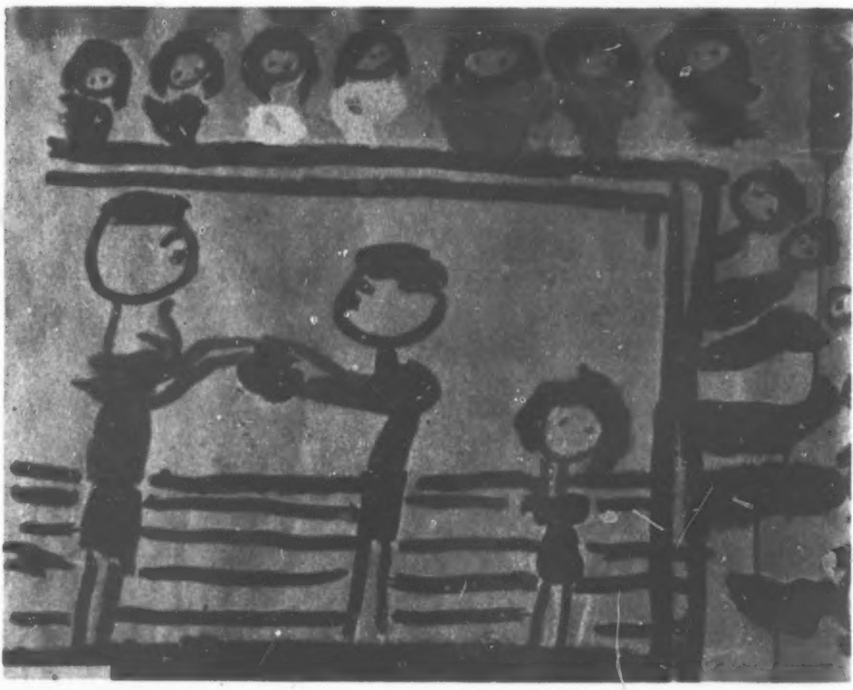
"My House"
Schema #2—Age 5



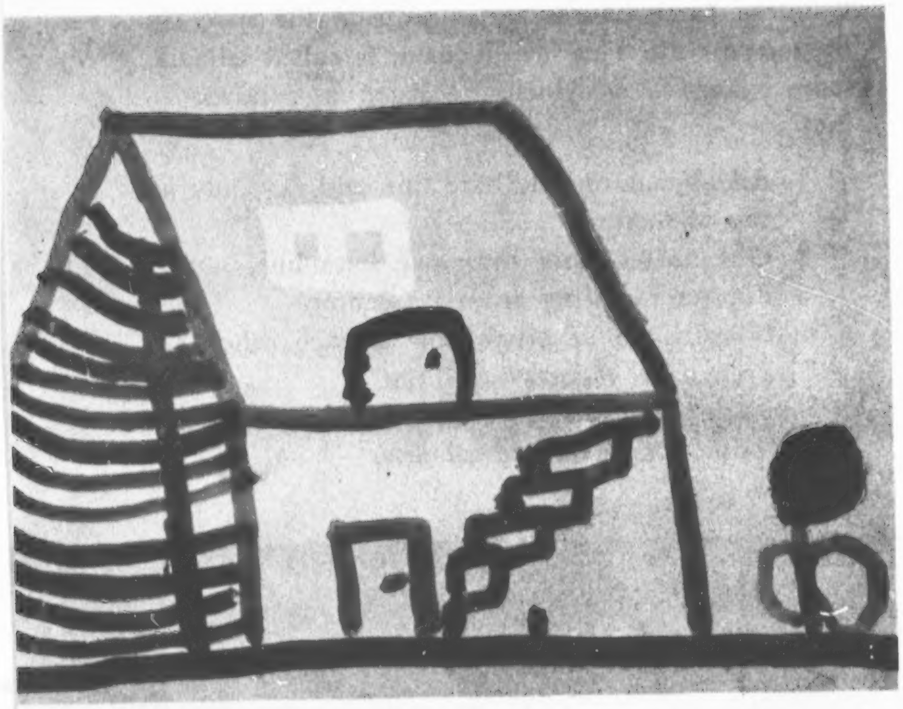
"Our Trip to the Art Academy"
Schema #4—Age 7



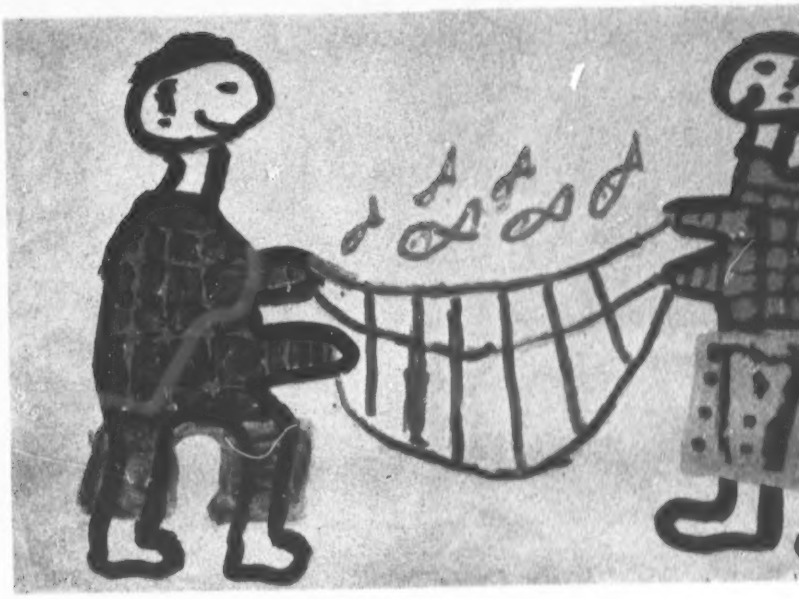
"A Birthday Cake"
Schema #3—Age 5



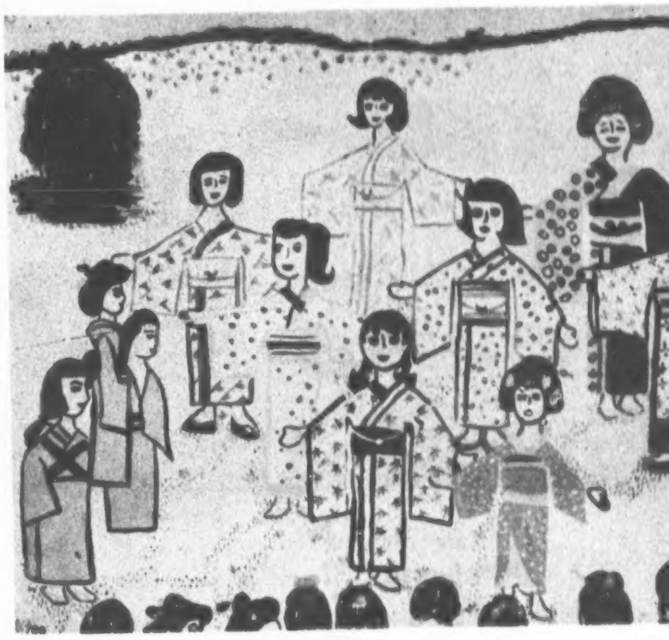
"Boxing"
Schema #5—Age 9



"Christmas Tree"
Schema #6—Age 5



"The Hukilau"
Early Expressive Stage—Age 7

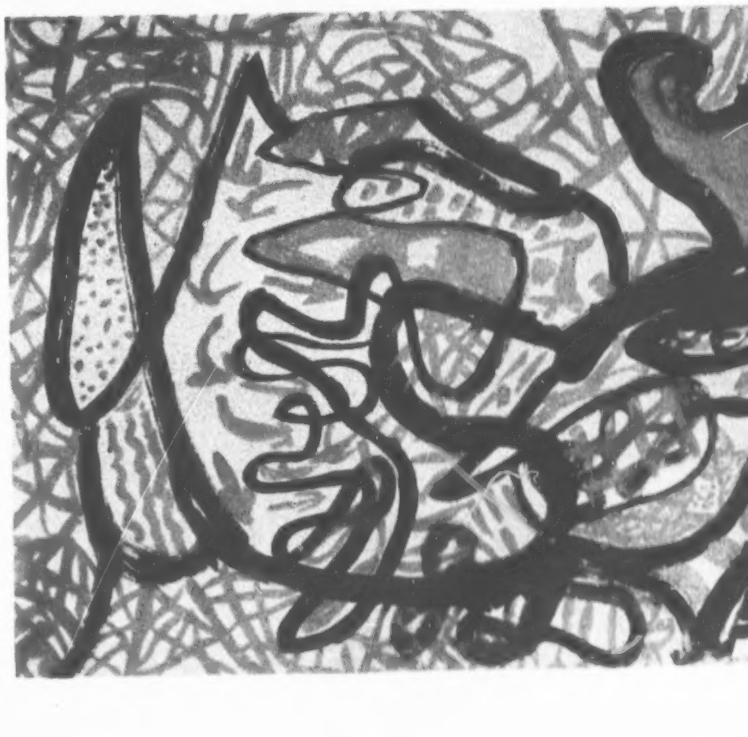


"Buddhist Noh Dance"
Expressive Stage—Age 11

EARLY EXPRESSIVE AND EXPRESSIVE STAGES

The next stages are called early expressive and expressive. As he grows, the child gradually develops a greater awareness of himself and becomes more observing of the world about him. His drawings and paintings are more representational or realistic and he adds more details. Later he organizes and groups figures and objects. However, he may sometimes take pleasure in organizing colors, lines and forms in an abstract design.

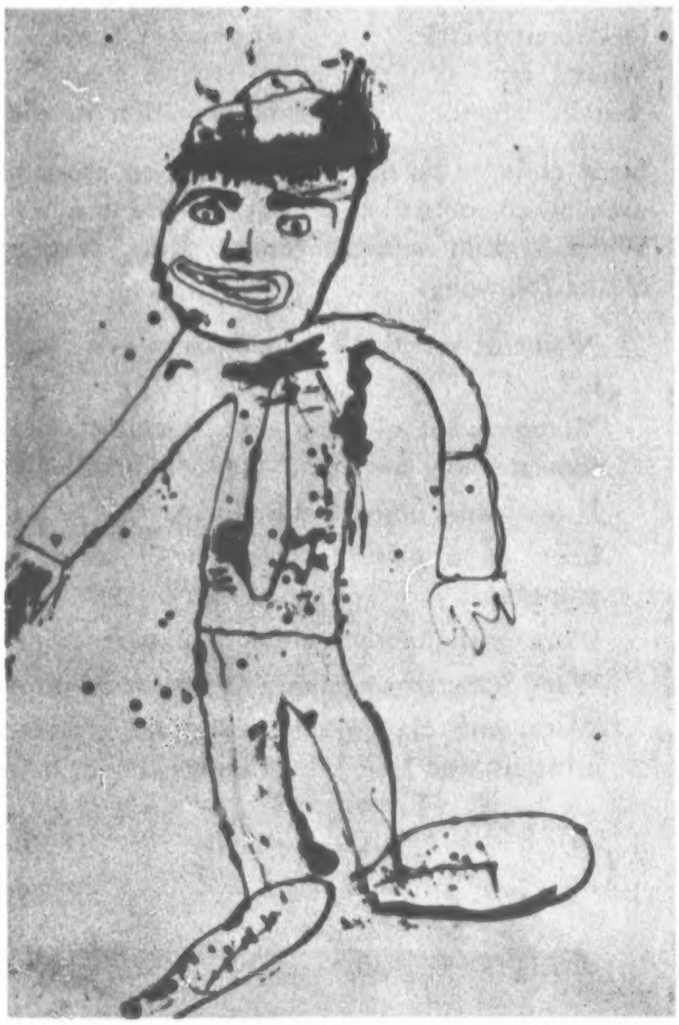
For more detailed description of growth expectancies see **Creative and Mental Growth** by Viktor Lowenfeld; **Art Education, Its Means and Ends** by Italo de Francesco; **Growth and Development in Art,** Denver Public Schools. Refer to Resources previously listed under Philosophy and Art Activities.



Abstract Design—Age 7

EQUIPMENT AND MATERIALS

- Work Areas
  - A few easels if enough space
  - Chairs on floor or table as supports for boards
  - Boards: approximately 26" x 38" and 20" x 26" for paper 24" x 36" and 18" x 24" which may be placed in chalk trays or tilted against wall on the floor.
  - Floor and table tops covered with newspapers
  - Paper attached to blackboard on four corners with masking tape (not scotch tape) parallel to paper which may be turned back at completion of painting
- Aprons, smocks or men's shirts
- Paper
  - Size: 9 x 12, 12 x 18, 18 x 24, 24 x 36 or approximate
  - Newsprint, white or colored
  - Wrapping manila
  - Drawing manila
  - Water-color white
  - Tonal, colored
  - Cardboard
  - Newspaper
  - Construction, colored
  - Scrap cardboard
  - Scrap paper
- Paint
  - Colors: red, orange, yellow, green, ultramarine blue, turquoise blue, magenta, brown, black and white.
  - Powdered tempera paint or liquid poster (show card) paint. Paint for general use should be the consistency of coffee cream. It may be thinned or thickened depending on the project or on the effect desired. Mix with wheat paste or cooked starch for finger painting. (Follow directions on Wheat Paste Bag)
  - Water-color pans with eight colors.
- Drawing Media
  - Colored chalk
  - Wax crayon
  - Charcoal
  - Soft lead pencils
- Ink, waterproof, black and colors
- Brushes
  - For poster paint:
    - 5/8" stiff bristle, long handled
    - 3/8" stiff bristle, long handled
    - 1/4" stiff bristle, long handled
    - 1½" brushes for large surfaces
  - For water color:
    - #6—#12 water-color brushes
    - Japanese and Chinese brushes, various sizes
- Substitutes for brushes
  - Brushes made from dried seeds of pandanus tree
  - Dried twigs of trees or bushes
  - Sponges
  - Feathers including quills
  - Cloths
  - Hands and fingers
  - Cotton
  - String and yarn
  - Pieces of cardboard



Painting with a twig—Age 8

THINGS TO COLLECT

- Wide-mouthed jars with lids for main supply
- Small containers such as baby food tins or jars, tuna cans or small milk cartons with tops cut off for individual sets
- Wood or cardboard boxes to held sets of paints
- Newspapers, a few large and small sponges, cloths
- Gallon cans for water

MOTIVATION

A relaxed classroom atmosphere is necessary, permissive but controlled. Ideas for paintings and drawings will come through individual and group discussion of the children's own experiences. It is a "drawing out" of what is in the child, his impressions and experiences:

Things we have done
Things we have seen
Seasonal events
How we think and feel about things
What I am thinking about
Things we imagine
Things we study about
Special holidays
Songs we know
Stories we know
Poetry we know
Things other people do

Some children do not need motivation, while others are slow to respond or do not respond at all.

When a child says he cannot draw, suggest any of the following:

"Paint as you think it looks or as you remember it."

"If you want to draw a boy kicking a football, show me how you do it." (Or pose another child.)

If available, observe the object.

Look at a picture, then put it away before painting.

Work with another child in a partner picture.

Work with a group on a mural or in puppetry.

Work with clay or other material in three dimensions and later return to drawing or painting.

When a child repeatedly paints the same subject, ask questions and give suggestions so he will add to it and make it a little different. Later, suggest using another subject. He needs stimulation for further "thinking."

SUGGESTIONS

Helpful suggestions should be given only when needed and in such a way that it does not interfere with the child's creativity. Guide without destroying initiative.

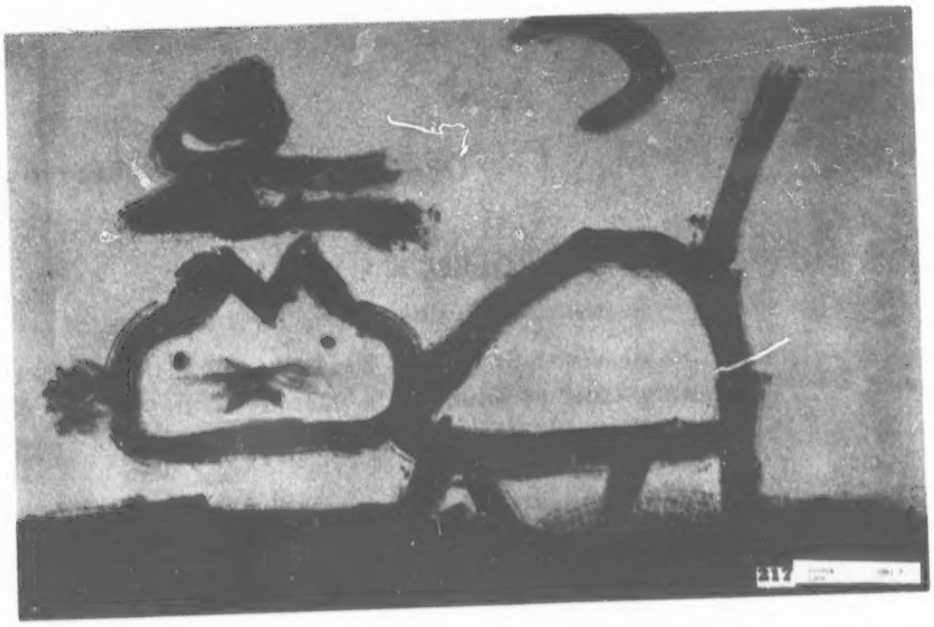
Every child should have the opportunity to work on all sizes (not smaller than 9" x 12") and kinds of paper, rough and smooth, white and colored. Use the paper vertically or horizontally depending on the subject, not always horizontally.

Children should experiment and explore many types and combinations of materials.

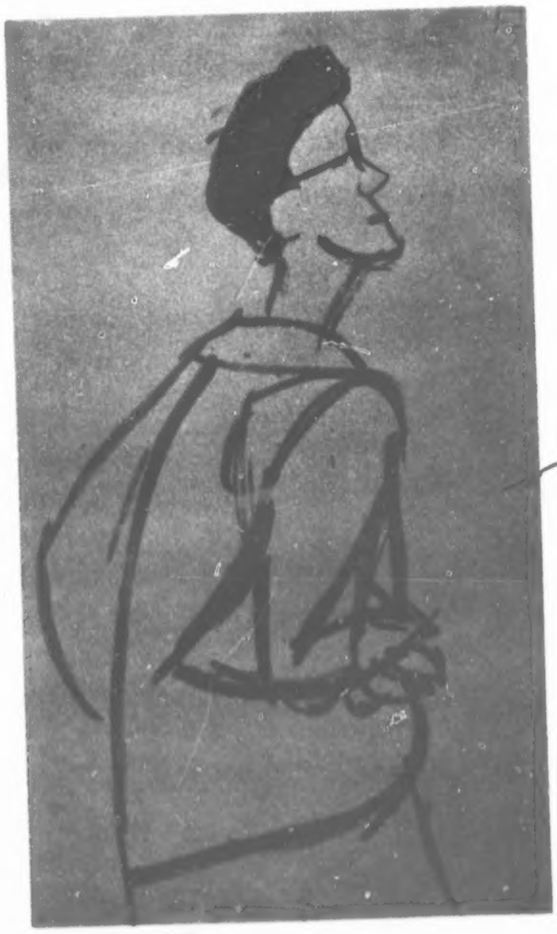
Older children who lack experience in painting gain confidence by practicing on a large piece of newspaper with a brush and one dark color, brush drawing, outlining forms only. Brush drawing is excellent because it is necessary to think first. The very young often begin their paintings with brush drawing.

Children gain confidence in drawing people by drawing or painting from life. Pose children in different positions.

Brush Drawings

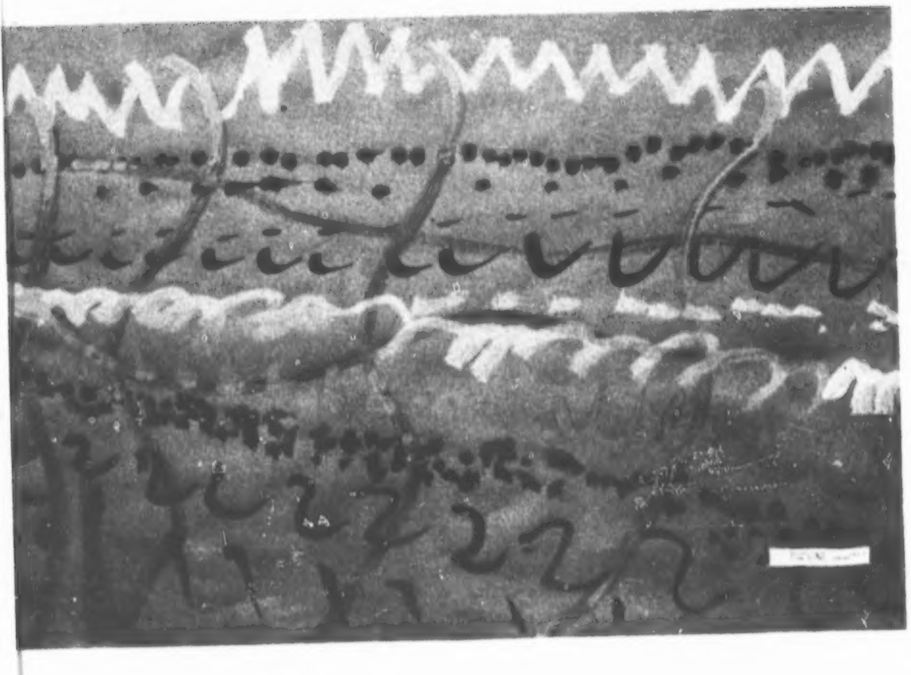


Age 7

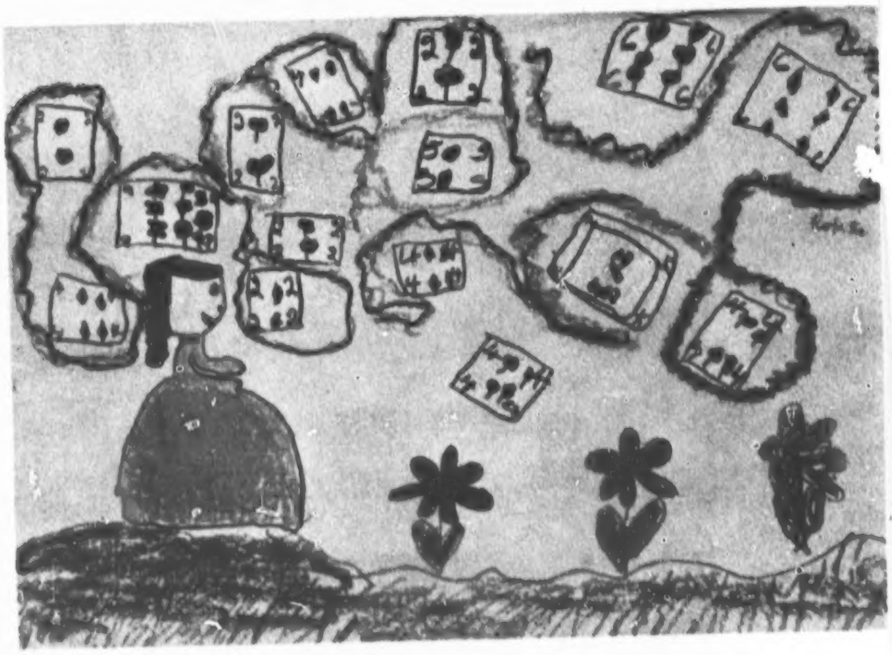


Age 11

To instrumental music—Age 7



To Alice in Wonderland: instrumental and vocal—Age 8



Another way to develop free work and overcome insecurity is to draw or paint to music. It helps to give confidence in the ability to express oneself freely and with imagination. This can be done while the phonograph is playing or while the children hum a tune. Sometimes it is fun to use a piece of colored chalk or a paint brush in each hand like children use two hands in finger painting. If children stand while working, they will use the whole arm in large free movement. Use the natural movements of the body in rhythm. Sometimes sing, dance, or beat to rhyhm before painting. Or paint large on the blackboard with large brushes and water.

Drawing first with pencil before coloring with crayon or paint results in tight and small work. Older children may sometimes need to draw with chalk or very light gray paint, especially if planning a mural. Drawing with pencil, crayon, charcoal or chalk is a natural way for children to express their ideas. In kindergarten to grade 6, however, sketching with soft lead pencil should remain a pencil drawing.

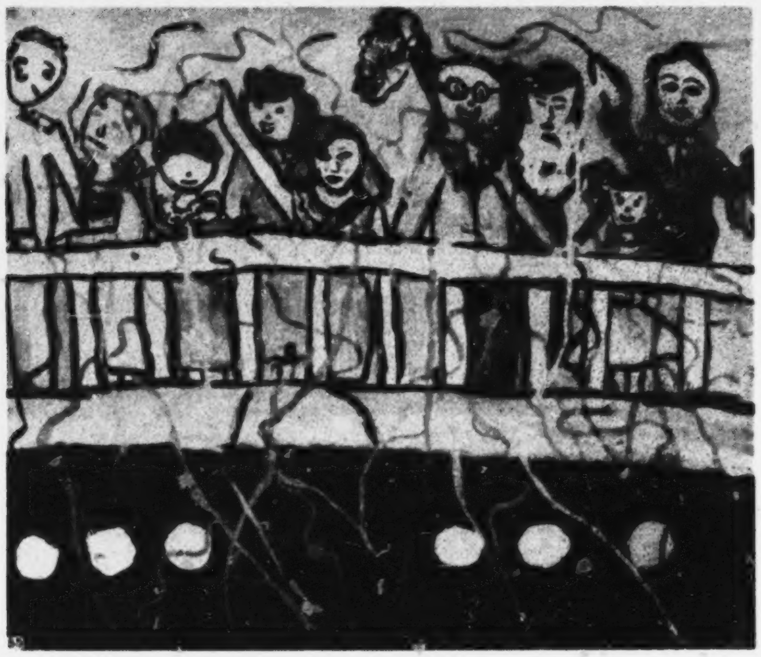
Skies may be other colors besides blue. In painting backgrounds or skies it is often necessary to lighten the color with white or sometimes lighten with water for thin washes.

When using water-color pans, place a little water with brush on each color before painting. When painting backgrounds, mix paint with water first in the water-color pan. Use soft-haired water-color brushes.

A dark line may be used to accent, to separate two light colors and occasionally to outline figures and objects. General use in all paintings is not good practice. A light line is sometimes used to separate dark colors.

Shading or modeling a figure or object to make it look three-dimensional is not taught in the elementary grades. It is confusing to most young children. However, sometimes older children will do so because they have seen someone else doing it or have seen it in a picture.

Repetition of the same or similar colors, lines or forms creates movement and makes a picture hold together. Sometimes pattern is created. Repetition directs the eye over the picture.



"Boat Day"
Repetition of line, form and color—Age 11

Everything in the picture should "belong" as it does in any other composition as in a story. However, the younger children sometimes place something in a picture that has no relation to the subject.

Drawing and painting are a means of communication and should tell the story without explanation. If necessary, write on the back of the picture. However, sometimes names of stores and other signs are included.

Copying other people's work, the filling in of color books and hectograph figures gives a false sense of accomplishment. A child becomes insecure in his own creative efforts and dissatisfied with his more childlike results. The same is true for older children and adolescents. They learn by doing. Copying is doing over. If it is necessary to look in a book or at a picture for research, these should be put away before returning to the drawing or painting.

FINGER PAINTING

Finger painting is the technique of spreading splotches of paint on wet paper, using both hands at the same time to form an original design. It is suitable for rhythmic design on bookcovers, gift wrappings and covering on large cartons for wastebaskets, but not for realistic paintings.

Show children how to use fists, knuckles, fingernails, palms, arms and elbows in addition to fingers to produce more interesting designs with more variation.

As an exercise, finger painting helps to develop the large muscles in young children. It may be used to free inhibitions and tensions at any age level.

Rhythms such as the following will help to stimulate children for finger painting:

Use arms: in swimming motion; as the waves roll in; as birds flap their wings in flight.
Use bodies as the trees bend in the wind and as they sway in dancing.
Finger paint to the rhythms of music, singing or listening to a record.

MIXED MEDIA FOR EXPERIMENTING

Children enjoy using more than one medium in the same painting. Listed below are some of the combinations that could be used. Let the children explore.

Draw outlines with wax crayon. Fill in with colored chalk or paint.
Brush draw with paint. Fill in with wax crayon, chalk or paint.
Apply chalk to dry or wet background. Brush draw on it when dry.
Stipple background with sponge and paint. Brush draw on it when dry.
Float paint, colors blending on wet background. Brush draw when dry.
Combine wax crayon and wash of paint. Refer to section Wax Crayon Resist.
Combine wax crayon and paint. Refer to section Wax Crayon Etching.
Combine string painting with wax crayon, chalk or paint.
Combine India ink with wax crayon, chalk or paint.
Combine collage with any of the media.
Rub over a rough surface with colored chalk or crayon. Brush draw or paint on it. Use corru-

gated paper, rough wood or wire screen under paper.
Paint background with brayer. Brush draw or paint on it.

A brayer is a roller with a handle used to ink block prints. Refer to section Printing with Brayer.

SUGGESTIONS FOR THE ORGANIZATION OF A PICTURE

The following qualities for the organization of a picture are used by the younger children without reasoning or thinking about them. During the earlier years they express their feelings and emotions so the design is natural for them.

Many older children lose this ability when they reach the stage of realistic expression and will need help from the teacher in acquiring these art learnings. They should be presented gradually, not all at once.

When arranging lines, shapes (forms), color, texture, value (dark and light):

Think of the whole space (the size of the paper).
Make something important.
Work large for the size of the space when using only one or a few forms.
Place many forms in the space if necessary to draw small ones.
Have some forms larger than others.
Have some forms different in shape.
Draw or paint as you think it looks or as it appears to you.
Draw or paint as you "feel" about the idea.
Use imagination.
Create with color:
  Paint an object any color desired even if not "like real."
Use some light colors and some dark colors.
Use some warm colors and some cool colors.
Repeat similar lines or shapes in a picture.
Repeat colors in a picture.
Mix new colors.
Explore with colors by using paint over paint:
  Use for details, decorating, texture.
Paint backgrounds and skies any color.
Explore with brushes by using them in different ways:
  Flat, point or by stippling.
  Different textures may be achieved.
Have figures go in different directions and take different positions.
Sometimes have action in the figures.
Group figures and objects:
  Objects may be behind or in front of other things.
  Objects may be smaller than others to show distance.

COLOR

Color is an important part of our everyday life in fashion, interior furnishings and decoration, transportation, architecture, books and magazines, dolls, toys, films, the theater and television. It is one of the most powerful elements because it appeals directly. There is usually a personal and emotional reaction to color.

Colors can create such moods as the violence of a storm, the gaiety and sparkle of sunlight and the muted color of twilight. It represents symbols such as white for purity, purple for royalty or pastels for delicacy. Pupils learn individually how different shades of colors can sparkle, how they can be muted, how they can form harmonies or discords.

Color for art is like the piano key for music. Colors can sing and vibrate. Once a pupil knows what colors and combinations of colors will do, the sky is the limit for his creative efforts.

Young children choose and work with the colors they like from the assortment provided. They often choose emotionally so they need a wide range of color. Very young children are encouraged to play with colors.

Pupils should experiment. Mixing and forming colors is a stimulating experience. Colors are sometimes mixed directly on the paper and sometimes in small containers. The color wheel has been abondoned for elementary grades.

Colors recommended are red, orange, yellow, green, turquoise, ultramarine blue, magenta, brown, black, white. From these, children can create other new colors by combining them.

SUGGESTIONS FOR MODIFYING COLORS

Add some green to yellow for yellow-green.

To make colors lighter, add white.

To make pastels, add color to white.

To make colors darker or softer, add a little black or use opposites such as a little red to green, a little blue to orange, a little purple to yellow and vice-versa. This is "graying" a color by using opposite (complementary) colors to modify each other.

Different kinds of brown may be mixed. Add a little dark blue to orange for a warm brown. Add yellow or orange to the commercial brown. Add white to any of these for tan shades. Due to lack of observation, imagination and experimentation, pupils often use too much brown or too much of the same brown in paintings.

Any color might be used for skin color by the very young children. Brown may be used for dark skin color. Add a little dark blue or black to brown for a very dark skin. For light skin color, add a little brown to white. Add also a little red for a warm skin or a little dark blue for a cooler skin color.

To make an interesting composition in terms of color, there should be some light colors and some dark colors in a painting.

Warm colors such as reds, oranges and yellows are intensified when applied next to cool colors such as blues, greens and purples. The warm colors come forward and the cool colors recede. However, if a cool color is brilliant and strong, it will advance. Soft colors recede even if warm.

The background is an integral part of the composition in a picture, but should not dominate the forms and figures in the painting by too great contrast or brilliance in color.

RESOURCE

The Code used for books is as follows:

*** — Recommended for school libraries**
# — Listed previously in Resources
L.H. — Library of Hawaii, Music and Art Room
A.A. — Honolulu Academy of Arts, Educational Department
A.D. — Studio of the Art Director

BOOK

Elementary and Secondary

#D'Amico, Victor. *Creative Teaching in Art.* Scranton, Pennsylvania: International Textbook Company, c1953. Color, pages 44-49. L.H., A.A., A.D.

APPRECIATION

A bright, new painting in the room provides interest and stimulation for little children who are just beginning to develop an awareness of colors, lines and shapes. No formal "lesson" in appreciation is necessary, but the children should be encouraged to express their reactions to the picture.

There are a number of ways of making a painting alive for an older child. The picture can be the inspiration for creative writing or dramatics. The actual scene that the artist might have used can be reconstructed by having students pose with improvised props. This can be done very freely, keeping the spirit of the original in mind rather than a literal interpretation of it.

Older students sh[illegible] allowed to participate in choosing and displaying pictures for the classroom. Let them plan an arrangement of a painting with three-dimensional objects. This will help them to "see" the colors, lines, and forms of the pictures, making a lasting impression in their visual memory. It will also help them to identify themselves with the picture.

All children should be led into a painting to discover for themselves visual interest and personal meaning. Remember that children need not like every picture they see, since experiencing art is a very personal matter.

DRAWING AND PAINTING IN GRADES 7 TO 12

The great difference among students at the secondary level in maturity, ability and experience with art materials requires careful planning for a successful program of drawing and painting.

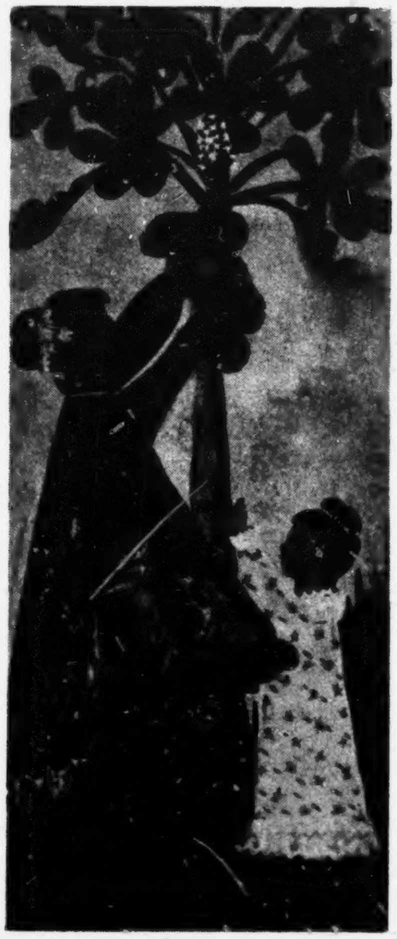
The following suggestions for Beginning and Advanced Drawing and Painting may be used in Exploratory, General or special Drawing and Painting courses depending on the maturity and experience of the students.

Teachers of 7th and 8th graders in required courses will find help in the section on Drawing and Painting for Kindergarten to Grade 6 in the understanding of patterns of growth. A sharp line cannot be drawn between the 6th, 7th and 8th grades in planning art work. Neither can a sharp line be drawn between the 10th graders and those in grades 7, 8 and 9.

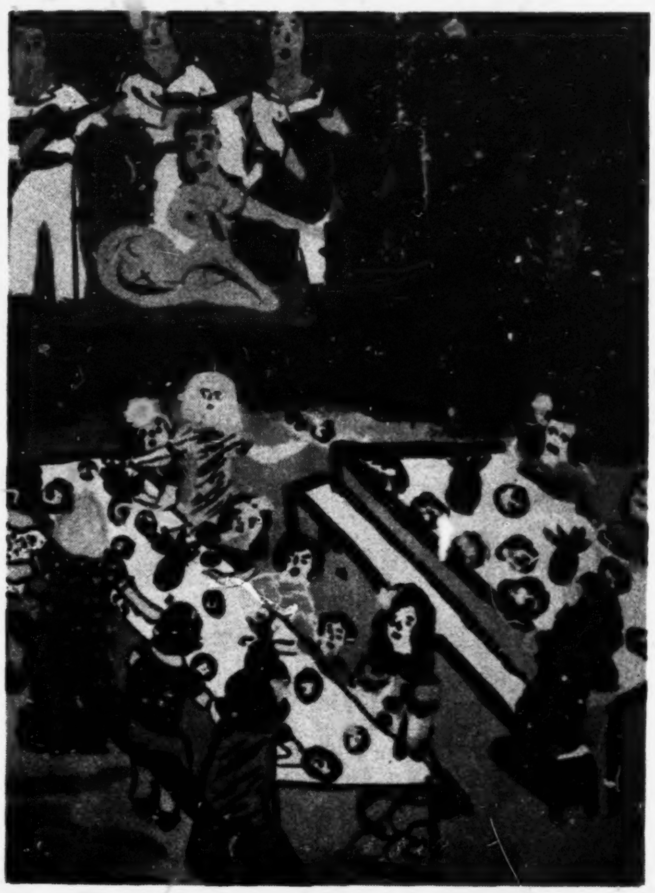
There are students in all levels from grades 7 to 12 who have unusual ability and should be encouraged to develop it by additional or advanced work that challenges their ability.

A change of activities is advisable to sustain the interest of all students, but repeated experience of an activity is necessary for growth. Students should explore all the possibilities of a medium, and experiment by combining it with other media.

BEGINNING DRAWING AND PAINTING



Picking Papayas—Age 15



Luau—Age 14

Emphasis must be on originality versus copying and on drawing or painting how they "feel" about an idea or subject. Skills should be introduced as they gain in the ability to create.

MOTIVATION AND STIMULATION

- Exhibits
- Demonstrations
- Films
- Filmstrips
- Books
- Magazines
- Slides

Discussions of experiences and interests, individually and in groups. Pupils have many ideas, but sometimes the ideas lie dormant and need to be aroused from the unconscious to the conscious.

Ideas may come from memory, imagination or on the spot observation from any of the following:

Self
- Vacation
- Clubs
- Friends
- Books
- Hobbies
- Imagination
- Feelings
- Health
- Special occasions
- Holidays
- Personal appearance
- Parties
- Pets
- Sports
- Music
- Emotions

Home
- Family
- Gardening
- Housework
- Special days

Community
- School
- Church
- Carnival
- Circus
- Automobiles
- Aloha Week
- Kamehameha Day
- Bishop Museum
- Art galleries
- Gas stations
- Boats and ships
- Honolulu Academy of Arts
- Aquarium
- Zoo
- Waterfront
- Airplane views
- Park and playgrounds
- Stores
- Theaters
- Airport
- Airplanes
- Important buildings

Industry
- Tourist
- Pineapple
- Sugar
- Coffee
- Cattle ranching
- Farming
- Hawaiian crafts
- Fishing
- Clothing

Vocations
- Banker
- Doctor
- Dentist
- Teacher
- Policeman
- Fireman
- Storekeeper
- Commercial artist
- Airplane hostess
- Lei seller
- Dancer
- Artist
- Musician

Military
- Army
- Navy
- Marines
- Airports and airplanes
- Ships

Nature
- Flowers
- Coral
- Trees
- Scenery
- Insects
- Birds
- Volcano
- Animals
- Sea life
- Volcanic rocks

Correlation with
- Language arts
- Social studies
- Science
- Aviation
- Economic education
- Music

Refer to section on Art As A Part of General Education.

EQUIPMENT AND MATERIALS

Media
- Pencils, hard and soft lead
- Pencils, 1/2" sketching
- Pastels, dry or oil
- Egg tempera
- Water color, pans or tubes
- Ink, black and white
- Inks, waterproof, black and colors
- Conte crayon
- Charcoal
- Wax crayons
- Oil paint, tubes
- Casein, tubes
- Chalk, colored
- Dry tempera paint
- Poster paint

Erasers, art gum

Paper
- Newsprint, plain and colored
- Wrapping paper
- Drawing manila
- Newspaper
- Construction, colored
- Tonal, colored
- White drawing

Pens   Pens, lettering   Pens, felt

Brushes, several sizes
  Round and flat, soft and stiff bristles

Drawing boards   Easels   Palettes

Substitutes for brushes
- Hand and fingers
- Scrub brushes
- Pieces of cloth
- Pieces of cardboard
- Medicine droppers
- String
- Yarn
- Twigs
- Sponges
- Brayers
- Toothbrushes
- Cotton
- Feathers including quills
- Seeds of pandanus tree

ACTIVITIES

Individual and group activities including murals:

Work in the art room from a window, on the campus or on excursions.

CARTOONING

For students with natural ability at cartooning and caricature.

Create something new and original.
Bring clippings.
Sketch everybody and everything.
Have funny idea expressed simply.
Develop "doodles" and "gag lines."
Make caricatures of people real or imaginary, bringing out their moods.
Make cartoons of local or national current events or subjects.
Study many types of caricature and cartooning:
    Hogarth, Daumier, Goya, Bacon, Groz, Covarrubias, Alajalov, Arno, Cobean, Richter, Steig, Steinberg, Soglow.

BRUSH DRAWING AND PAINTING

Brush drawing in line and wash using black water color, ink or poster paint.

Fast technique to emphasize essentials, characteristics and mood of subjects from models, nature, imagination, still-life or memory. Show examples of calligraphy (writing), ink landscapes, figures, bird and flower paintings by famous Oriental artists.

Chinese: Wang Wei, Hsia Kuei, Shên Chou.
Korean: Kang Hŭi-an, Si Kak Han, Chŏng Sŏn.
Japanese: Toba Sōjō, Sesshū, Moronobu.

PORTRAIT AND LIFE DRAWING OR PAINTING

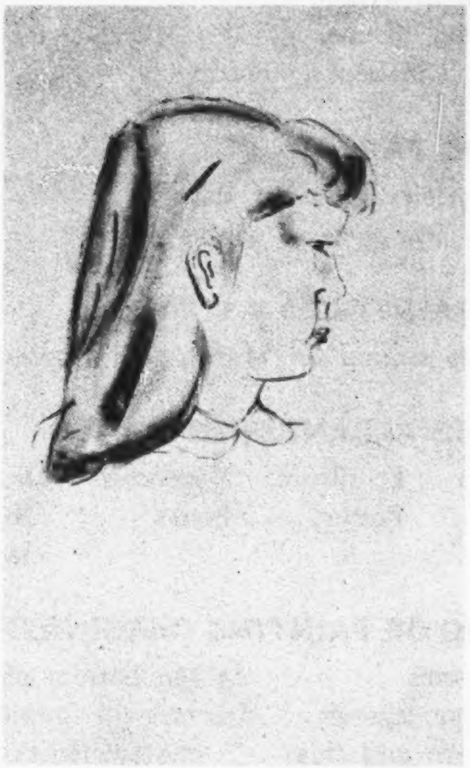
Develops confidence in drawing people.

Students posing, students in action, figure groups:
    Posing as model develops poise.

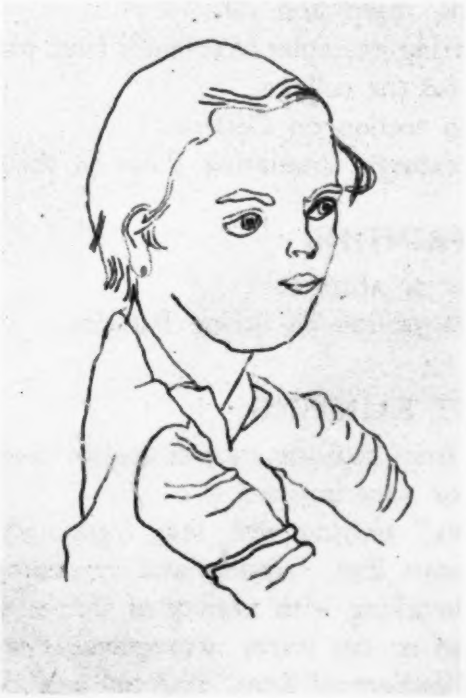
Contour drawing, gesture drawing, fashion design, self portraits.

Contour and Gesture Drawing:
    Refer to Contour and Gesture drawing in section on Advanced Drawing and Painting.

Allow limited time, no erasers. Also allow working with no time limit.



Pencil Drawing—Age 12



Contour Drawing—Age 12

DRAWING AND PAINTING OF ANIMALS, BIRDS, FISH, INSECTS

At rest, in action.
Excursion to zoo.
Research in books, no copying.

DRAW OR PAINT

Aerial views (looking down).
Worm's eye views (looking up).

FRESCO PAINTING

Refer to section on Murals and Friezes.

STILL LIFE ARRANGEMENTS

Flowers
Plants
Furniture
Pottery
Vegetables
Books
Drapery
Objects in classroom

DRAWING OR PAINTING IMAGINATIVE IDEAS

Menehunes
Hawaiian legends
Spacemen and ships
At the bottom of the sea
Insects with human characteristics

EXPRESSING A MOOD OR FEELING

I feel happy
Painting to music
Poem or story read
A storm on land or sea

COLLAGE

Discussions of texture: smooth and rough, shiny and dull, sharp and soft.
Pupils bring examples of textures from materials and nature for the collage.
Refer to section on Collage.
Paint textures, simulating those in the collage.

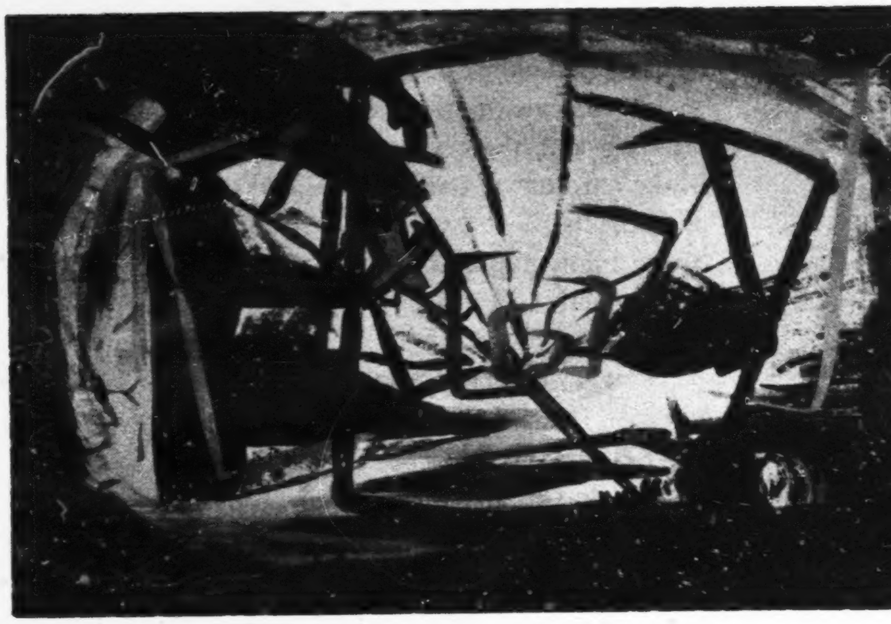
STRING PAINTING

Realistic or abstract.
Refer to section on String Painting.

ABSTRACT PAINTING

Forms from realistic subject matter simplified, distorted or superimposed.
"Doodles," playing with line, form and color.
Continuous line, crossing and recrossing.
Space breaking with variety of shapes and sizes:
    Form or cut paper arrangements with vertical and horizontal lines, diagonal and curved lines.
Drawing and painting with any media.
Combination of media.
Use of color, pattern, texture.

Show and discuss work of Braque, Picasso and others.



Abstract Painting—Age 12

NONOBJECTIVE PAINTING

Pure form, ideas not derived from realism.
Forms of different sizes in space—triangle, circle, square, imaginative form:
    Shapes may be created by the accidental flow and overlapping of colors.
    Torn or cut paper arrangement.
    Drawing or painting with any media.
    Combination of media.
    Use of colors, pattern, texture.

Show and discuss work of Mondrian, Kandinsky and others.

ILLUSTRATIONS

For correlation with other subjects, posters and books.
"Draw as you think it looks or as it appears to you." (no copying)

DECORATIVE PAPERS

Surface pattern or design and border design.
Repeat or spontaneous design:
    Hawaiian tapa design, stylized forms from nature, geometric forms, pure fantasy or imagination.
Uses: Wrappings for gifts, lettering or monograms.

book covers, end papers in handmade folders or books, art portfoilios.
Refer to section Decorative Design or Pattern.

LETTERING

Practice lettering when need arises for designing.
Research: origin of alphabets.
Manuscript writing.
Simple block letters, capitals cut or made with the side of a small piece of wax crayon or 1/2" wide sketching pencil.
Simple letters with felt pen.
Simple letters with lettering brushes or lettering pens and India ink.
Uses: bookplates, posters, invitations, programs, bookcovers, portfolios.
Refer to sections on Lettering, Posters and Advertising Art.

GROUP ACTIVITIES

Friezes	Oversize paintings
Costumes	Stage scenery, curtain, flats and props
Murals	

Decorations for assemblies and special occasions.
Exhibits in classroom, other parts of school building or store windows.
Term exhibit: invitations, refreshments, demonstrations.
Understanding of color and design developed in selecting and arranging.

COMBINATIONS OF MEDIA

Encourage students to experiment with other combinations.

Pen and ink with water color or colored chalk.

Chalk with waterproof ink.

Water color or poster with waterproof ink.

Wax crayon or oil pastel with water color, India ink or thinned poster washes (crayon resist)

Paint applied by brayer for underpainting and combined with other media and method.

Collage with paint, crayon or ink.

Wax crayon etching.

Wax crayon outline drawing filled in with chalk.

Brush drawing with white paint on black paper. Paste montage of newspaper for background.

Paint with poster paint. When dry, cover entire surface with India ink and then hold under water from faucet at the sink. The result is an interesting textured surface.

APPRECIATION

See Appreciation for Grades 7 to 12 following Advanced Drawing and Painting.

ADVANCED DRAWING AND PAINTING

The following activities are suggested for those students with unusual interest or ability. Encourage individual insight and expression. Imagination and feeling are more important than rules of organization. The mechanics and exercises are used only to give security in personal expression.

HOMEWORK

Keep a notebook for sketching **everybody** and **everything** and also a notebook for individual readings and reports from art magazines, books or trips to exhibitions.

Develop a notebook on fine art with clippings and information about the artists after motivation by films, slides, filmstrips, books, magazines or trips to a museum.

PROBLEMS NEEDED FOR GROWTH

Experimenting and finding out things on one's own initiative.

Knowledge and use of hue, value and intensity of color, line, form, texture and design principles in composition.

Figure and portrait drawing important as some go into fashion drawing, advertising art or become professional artists.

DRAWING

Drawing is the art of describing something by means of lines. It is akin to writing and is a form of communication familiar to everyone. Each pupil should develop an orginal, personal way of drawing.

Drawing that has vitality is a matter of perception, using all the five senses. The use of sensory powers leads to the development of aesthetic sensitivity and makes art experiences more meaningful.

SUGGESTIONS FOR DEVELOPING SENSITIVITY

Imagine you are touching the subject as you draw.

Identify yourself with the things you are observing.

Feel the weight, thickness, volume:
Distortion or exaggeration may be necessary to express these qualities convincingly.

Feel the balance, rhythm, texture.
Feel your way.
Look at object as if you never saw it before:
Draw searchingly.

DISCUSSION

Importance of drawing in many occupations and professions.

Use of drawing in scratchboard, cartooning, pen and pencil work, pastel, etching, lithography, scratchboard, advertising layouts, fashion and architectural drawing and in innumerable situations in everyday life.

EQUIPMENT AND MATERIALS

Media
- Pencils, hard and soft lead
- Pencils, 1/2" sketching
- Pencils, lithograph
- Pastels, dry or oil
- Chalk, colored
- Erasers, art gum
- Conte crayon
- Ink, black and colored
- Charcoal
- Pens, Pens, felt
- Water colors
- Brushes, water-color, several sizes
- Brushes, Oriental bamboo
- Substitutes for brushes
  - Twigs and feathers

Paper
- Newsprint, plain and colored
- Drawing manila White drawing
- Charcoal, white and colored
- Newspaper Rice paper

ACTIVITIES

Contour drawing develops freedom from tight sketching. It concentrates only on the contour of objects, thus developing the power of observation and expression. The word contour means a continuous outline of an object. After some practice, it can be carried further with variation in width of line, dark and light or color, but retaining the continuous line. Results may be distorted. Encourage students to be fearless and honest, drawing what they see **with no erasing.**

Contour drawing for form, volume and sensitive line of anything in the environment: people, objects, buildings, nature.

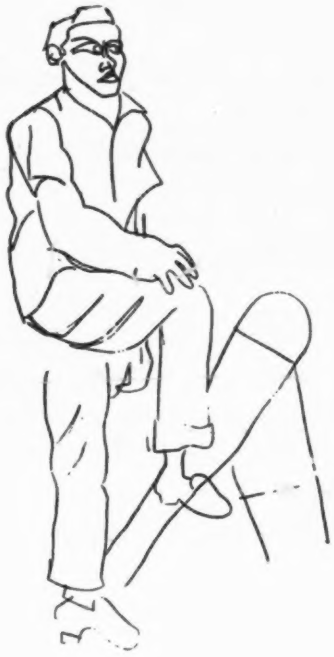
Combining the sense of **touch** with **seeing.**

Work large and fill up the paper.

Keep pencil on paper and eye on object **together.**

Work slowly, keep eyes on model or object, no erasing.

Start drawing at the top of an object with the eye traveling down the object, **but not on the paper.** The **pencil** makes the observation on the paper.



Contour Drawing—Age 16

Gesture drawing for action and movement of people, animals, birds.

See the whole figure in drawing from the model.

Draw what the figure is **doing,** not what it looks like.

Work rapidly with moving scribbling lines feeling the movement, **no erasing.**

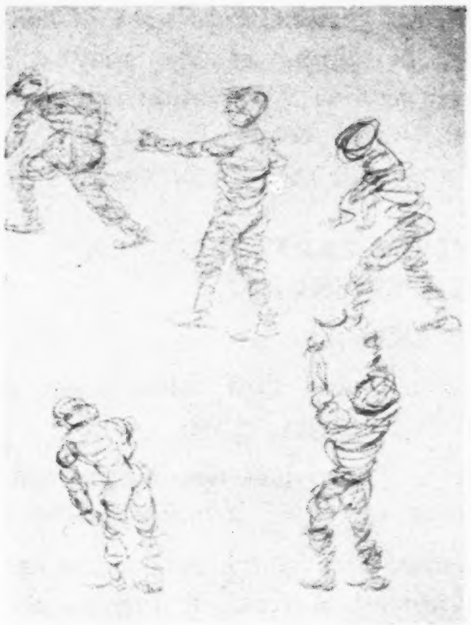
Keep pencil on paper, making a continuous line.

Later draw action as in illustration below.

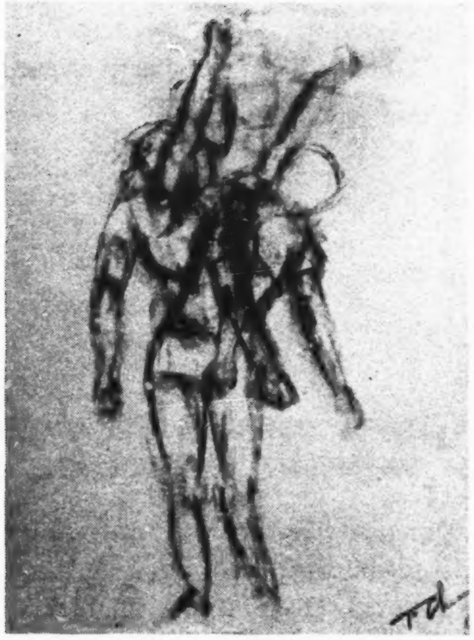
Make gesture drawings from memory.

Gesture drawings of things, people, animals in repose.

A man asleep	A bird in a nest
The way a robe falls	A woman praying
A duck on a pond	A model posing



Gesture Drawing—Age 17



Gesture Drawing—Age 15

OTHER ACTIVITIES

Draw with eyes shut, feeling (touching) an object.
Draw with a hesitating line: draw, stop, draw, stop, feeling your way.
Draw from memory or imagination.
Draw things larger or draw things smaller.
Draw an aerial view of a person or object.
Draw a worm's eye view.
Combine media.
Draw with time limits.

ORGANIZATION (Composition, Design) OF A DRAWING

Utilizing the whole space (size of paper).
All parts interrelated using

Line

Different kinds of line to express feeling, emotion, mood:

Horizontal for tranquility, repose.
Vertical for life, vitality, strength.
Oblique for motion, action.
Changing curve for strength, beauty.
Irregular for strength because it has variety.

Line enclosing form.

Line used for unenclosed form.

Line with wash for space and volume.

Heavy and light lines, dark and light value.

Directional lines that lead the eye around throughout the picture.

Value

Heavy and light lines.

Dark and light by shading or modeling which in contemporary work is kept to a minimum.

Texture

Discussions of texture: smooth and rough, shiny and dull, sharp and soft.

Use media best suited to the texture of the subject.

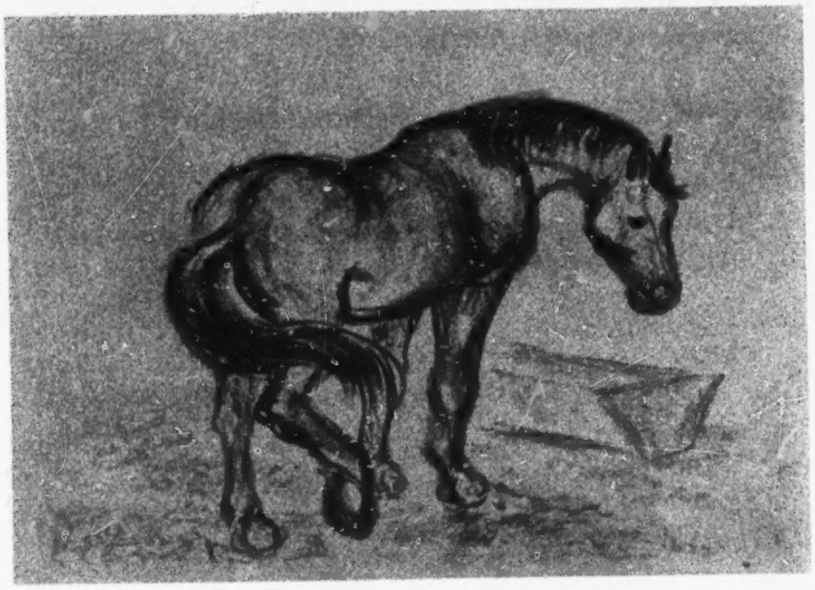
Place drawing paper over sandpaper, corrugated paper or other rough surfaces to get different textures. Rub with pencil, chalk, wax crayon, pastel, conte crayon or charcoal.

Use side of pencil or crayon.
Cross-hatch.

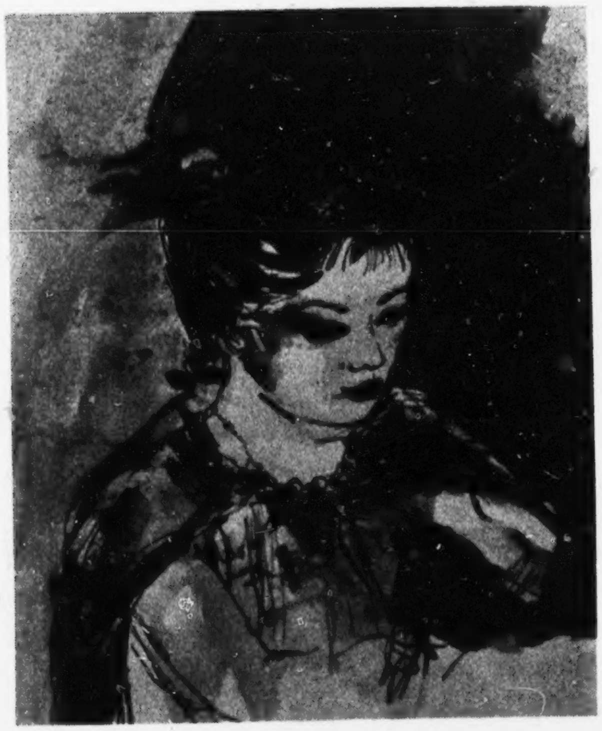
Invent ways of showing a texture.

APPRECIATION

Study drawings of prehistoric cavemen, Egyptians, Greeks, Oriental artists; Michelangelo, Leonardo da Vinci, Dürer, Holbein, Rembrandt, El Greco, Daumier, Picasso, Toulouse-Lautrec, Matisse, Dufy, Whistler.



Conte Crayon—Age 17



Wash with Pen and Ink—Age 17

PAINTING

Painting is the organization of line, dark and light color and form for personal expression of communication. Subjects, pertaining to life, may come from memory, imagination or observation using show card (poster) paint, water color, oil, pastel, oil crayon, encaustic (wax crayon melted) or casein.

DISCUSSIONS AS PART OF PAINTING EXPERIENCES

Subjects for paintings.

Comparison of show card color, water color, oil and casein in paintings.

Consideration of the whole two-dimensional space of paper, canvas or other painting surface.

Development of the composition on the entire page or canvas instead of concentrating on an isolated area.

Art vocabulary: What are form, space and other art terms?

Comparison of bisymmetrical and occult balance in painting.

Which do you like better and why?

Organization of direction of line, overlapping of planes, placement of color, form and negative space.

Omission of diminishing perspective except foreshortening in the human figure in contemporary painting.

Importance of color today in everything and everywhere.

Develop one's own color taste.

Calligraphy used in painting.

DESIGN ELEMENTS USED IN ORGANIZATION AS PART OF PAINTING EXPERIENCES

The art elements, **line, color, form, value** and **texture,** are the means or ingredients used by the student to express his idea. How he uses them should reflect his individual personality.

Line

See Line under Drawing.

Color

Color is one of the most powerful elements in painting because it appeals directly. Develop choices of color by the experimental method.

Source of color: light and pigment.
Color contrasts for emphasis and variety:
  Analogous or like colors.
  Warm and cool colors.
  Complementary Colors.
Color mixing: hue or name of a color, light and dark value of a color and black.
Bright or dull intensities: chroma or strength of a color and gray.
Carrying colors, color visibility:
  The quantity and quality of light in a color differs on light, medium or dark backgrounds.
Color combinations: the effect of colors on each other.
Color amounts, design in color choice:
  Fine color depends largely on careful choice of amount and intensity.
Color and values:
  For visual sensations, emotion and mood.
  To express feelings and ideas.
  To describe.
  For decorative purposes.
  For integration in a painting.
Problems suggested:
  Paint with warm color dominant.
    cool color dominant.
    dark values dominant.
    light values dominant.
    a limited palette, a few colors.
    color bright (intensity) in contrast to dull (greyed or neutral).
    repeating tints or shades of a dominant color.

Texture

Observe textures in nature and in man-made things.
Bring examples to class.
Create collage. Paint textures, simulating those in the collage.
Create texture in painting.

Plane or Surface

Many planes make up a solid form along with color, tone and other elements like the planes in a face.

Planes and shading or modeling are both used to show appearance of solid form in painting. In modern painting shading and modeling are kept to a minimum.

Place planes behind other planes as if you could walk around behind.

Value

Dark and light.
Pattern is accomplished by the play of light colors against dark colors.

Form

Mass, shape or structure of objects occupying space and organized in a unified whole combining planes, lines, tones, spaces, color and textures.

Form may be a flat plane, a synonym for shape, three-dimensional as in sculpture or an illusion of three-dimensions as in painting.

Space

Negative areas of all kinds or "air," between and surrounding positive forms, that have length, width, depth and direction.
Spaces may be closed or unenclosed.

DESIGN PRINCIPLES USED IN ORGANIZATION AS PART OF PAINTING EXPERIENCES

The art principles listed below are used by the student as tools in arranging the art elements to fully express his **feeling** about the idea he is trying to portray. These principles are hard to understand and should be introduced gradually only in connection with the student's work, never as a separate problem. They are only a means to an end.

Proportion

The size or amount of any art element or principle used in relation to all other parts. However, spontaneous and stimulating ideas may be dulled by adhering rigidly to proportion.

Balance

Symmetrical, both sides alike.
Assymmetrical, informal or occult, balance of unequal amounts.

Emphasis

Of one or more elements to give dominance.

Subordination

Of certain elements to establish emphasis or dominance.

Rhythm

Movement created by repetition of similar lines, forms or colors which directs the eye over the picture. Compare with rhythm in music, the dance and poetry.

Opposition

Contrast of line directions, colors, textures or shapes to attain variety and to stimulate interest.

Variation

Difference in lines, colors, values, textures or shapes that enrich the design and avoid monotony.

Unity

All elements necessary, nothing superfluous.

Harmony

Compatability of the various elements resulting in harmonious relationships between sizes, shapes and colors.

SUGGESTIONS

Originality and imagination are of first importance and must not be subordinated to a mechanical use of elements and principles.

Fine design or composition is the orderly arrangement of all the elements into a harmonious whole plus the use of the intuitive senses and can only be accomplished in repeated experiences or practice and by evaluation.

EVALUATION FOR GOOD DESIGN

Has the student succeeded in putting across what he had to say? Is the finished work convincing?

Has he expressed his own feelings and intuition in the painting? Is it original and individual?

Is there consideration of the whole two-dimensional space of paper, canvas or other painting surface?

Is there balance or equilibrium attained by rhythm (movement) and harmony in the repetition of similar lines, colors or forms?

Is there emphasis of the main idea by contrasts or placement and subordination of the less important parts?

Is there variety of kinds, sizes and shapes in line, color and form to avoid monotony?

Is there enough plain space to contrast or enhance other areas of varied texture as a sandy surface against a smooth surface?

Is there a dominant color? Do the neutral areas or grayed colors balance the smaller amounts of fuller intensity?

Is there enough contrast of dark and light to stimulate interest?

Is there an orderly arrangement of all the parts or elements or does any part seem not to belong?

Are all the parts arranged in a harmonious relationship to give a unified whole?

APPRECIATION AS A PART OF DRAWING AND PAINTING EXPERIENCES

Appreciation may come from the creating of a drawing or painting or it may be developed through observation, comparisons and discussions by the following methods:

Use of films, filmstrips, slides; original paintings or reproductions; trips to an art gallery or museum; art magazines and books.

An artist's visit to the classroom with an explanation of his work.

Study and discussion of paintings to see how others solved certain problems.

Comparison of ways of showing perspective at different times in history:

Primitive or ancient art: one figure overlapping another, distant objects on a higher level or on another base line as in early Egyptian art.

Renaissance: linear perspective as in the works of Ucello, Leonardo Da Vinci and Dürer using volume and deep space.

Today: depth in the picture-box or establishment of foreground and background accomplished by size, color and placement of forms or planes in flat space, not by formal perspective.

Recognition of different types of drawing and painting, starting with the work of contemporary artists because it is closer in time to the life experience of the students: Realism, Romanticism; the experimental work of the Impressionists, Cubists, Surrealists; Abstract and Nonobjective painting; Abstract Expressionism.

Students should also become acquainted with great paintings of other areas throughout the world, not necessarily in historic order:

Prehistoric cave painting
Primitive and folk art
Ancient painting: Egypt, Greece and Rome
European painting: Medieval and Renaissance
European and American painting: 17th, 18th and 19th centuries

Painting in the Near East and Far East: Persia, India, China, Korea and Japan from ancient to modern times.

WATER-COLOR (*transparent*), SHOW CARD (*opaque*) OR CASEIN (*opaque*) PAINTING

EQUIPMENT AND MATERIALS

- Media
  - Pencils, hard and soft lead
  - Water color, pans or tubes; casein, tubes
    - Suggested colors: alizarin crimson, cadmium reds, lemon yellow, cadmium or chrome yellow, yellow ochre, raw sienna, burnt sienna, burnt umber, viridian, Hooker's green No. 2, ultramarine, cobalt blue, ivory black
    - Add white to casein colors.
  - Poster paint, all colors
- Erasers, art gum
- Paper
  - White paper, absorbent for water color
  - Paper of any kind for show card color
  - Cardboard, illustration board, matboard or any paper for casein
- Brushes
  - Camel's hair, ox-hair or sable brushes flat and round, several sizes, for water color
  - Bristle and soft-haired brushes flat and round, several sizes, for opaque color
  - Pens Ink Sponges
- Palettes
  - White plates or other type palettes
- Containers for water Rags
- Drawing boards Easels

METHOD

Wet or dry or combination of both.

Washes with brush, sponge, or brayer.

Paint brushed on the edge of a piece of cardboard and used as brush substitute to make straight lines or to drag down for an area.

Dripping or trailing with medicine dropper or small ear syringe.

Experimentation by using brushes in different ways: flat, point or by stippling.

Scratching and texturing with tools and sponges. Twigs and feathers as substitutes for brushes.

Lines made with stopper of India ink bottle.

Calligraphy, using small fine brushes or pen and ink.

Use of torn paper, white or colored, including Japanese rice paper in collage. Combine with water color or ink.

Combinations of media. Experiment.

APPRECIATION OF WATER-COLOR PAINTINGS

Local artists

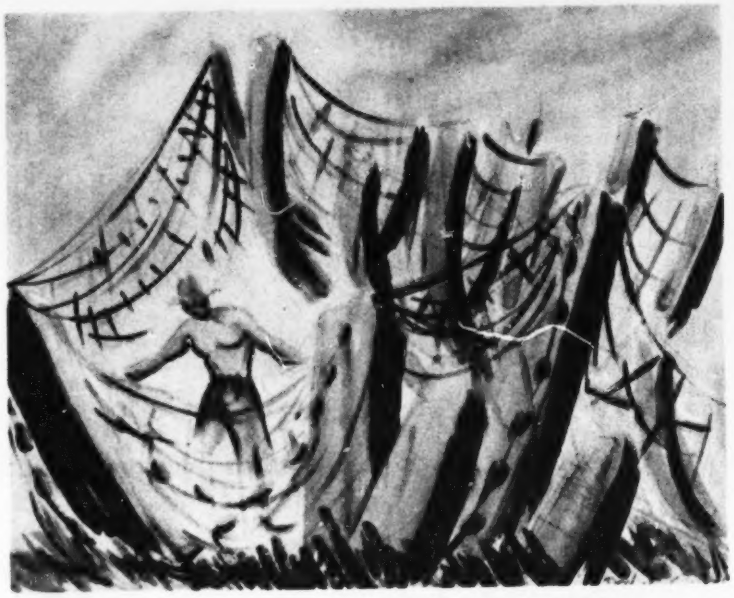
American: Marin, Hopper, Homer, Grosz, Dehn, Sheets, O'Hara, Demuth, Knaths, Feininger, Prendergast

European: Cézanne, Matisse, Dufy, Degas, Chagall, Turner, Klee

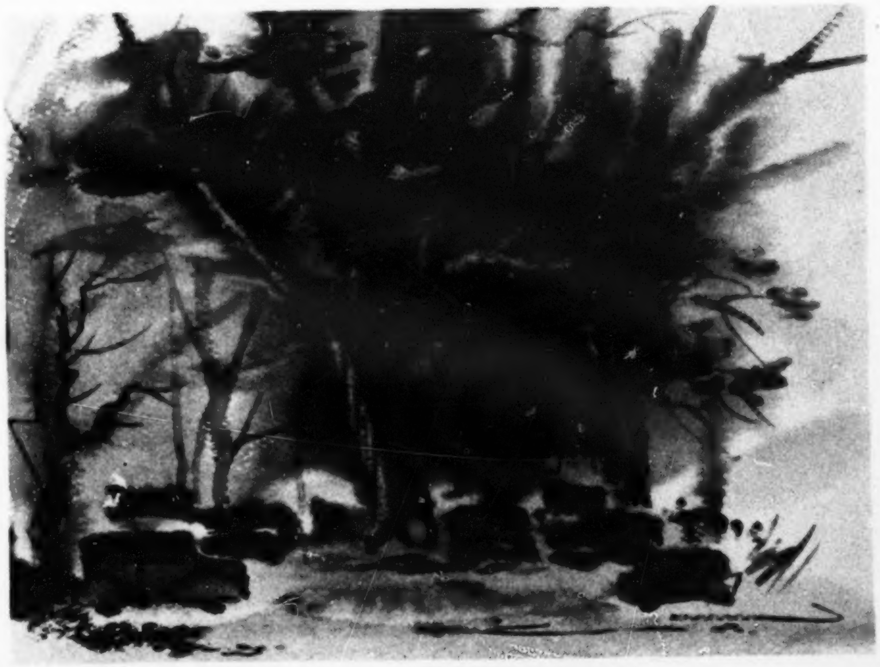
Chinese, Korean and Japanese wash drawings and paintings

FRESCO

Refer to section on Murals and Friezes.



Water-color Painting—Age 16



Water-color Painting—Age 18

OIL PAINTING

EQUIPMENT AND MATERIALS

Oil colors

Suggested colors: alizarin crimson, cadmium and chrome yellow, cadmium reds, zinc white, flake white, cobalt blue, ultramarine blue, viridian, black, burnt umber, burnt sienna

Paper, canvas board, cardboard shellacked or coated with casein, masonite, burlap on cardboard, window shade or canvas on stretchers

Brushes, bristle and sable, flat and round, several sizes

Turpentine, refined Linseed oil, boiled

Knives, painting and palette

Metal cups for turpentine and oil

Wood or glass palettes Rags

Drawing boards Easels

METHOD

Brush, painting or palette knife or in combination.

Drip or trail.

Experimentation in use of brushes: stipple, dry brush, broken color.

Use of salt, sand, sawdust or plaster in paint for texture.

Surface of paint scratched or textured with sponges, sticks, wires, combs or other tools.

Use of calligraphy.

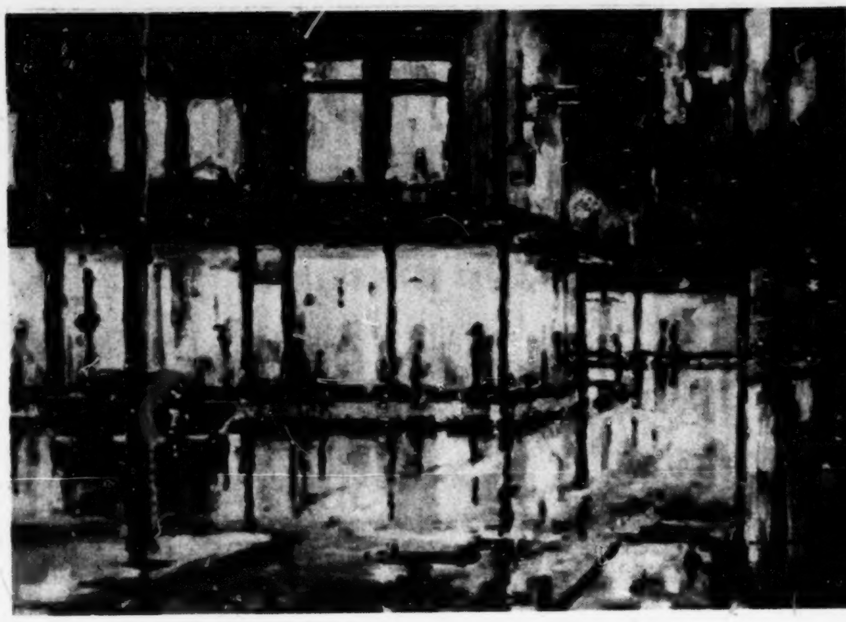
APPRECIATION OF OIL PAINTINGS

Local artists

American: Carroll, Whistler, Eakins, Ryder, Hofmann, Homer, Pollock, Motherwell, Bellows, de Kooning

European: Cézanne, Van Gogh, Rouault, Gauguin, Monet, Braque, Renoir, Manet, Matisse, Picasso, Modigliani, Rembrandt, Titian, Leonardo da Vinci, Vermeer, Velasquez, El Greco

Mexican: Orozco and Rivera



Oil Painting—Age 17

PASTEL (dry), PASTEL (oil), AND CHALK DRAWING AND PAINTING

MATERIALS

Pastels, dry or oil

Charcoal Charcoal erasers

Illustration board

Pastel and white drawing paper

Charcoal paper, white and colored

Cardboard

METHOD

Use of points, blunt ends, sides of crayons.

Dry or wet crayons on dry or wet paper.

Oil crayons on paper, canvas board or on cardboard painted white.

Combination of dry or oil crayons and water color or india ink wash.

PROBLEMS (no pencil)

Sensory development, free and spontaneous:

Draw lines in the air that represent a certain feeling.

Feel in your whole being.

Example: horizontal for repose.

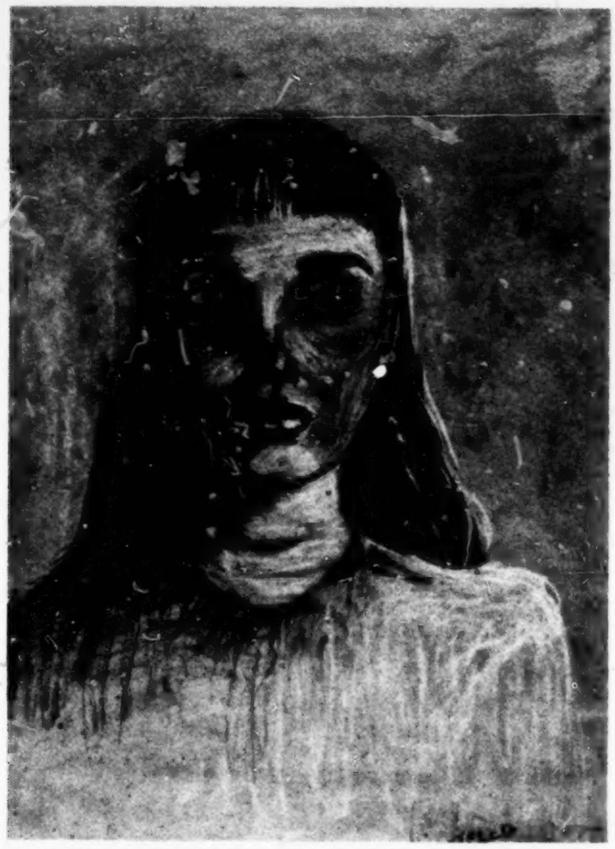
Then draw the same on large paper.

Express anger, joy, and other emotions.

Design, abstract:
Using line, form, color, texture in flat planes.
Using dark and light value.
Introducing modeling (shading) for an illusion of three dimensions.

APPRECIATION OF PASTEL PAINTINGS

American: Gladys Rockmore Davis
European: Degas



Pastel Painting—Age 18

PROBLEMS IN PAPER SCULPTURE

Refer to section Creating with Paper.

Cut, score, roll, bend, fold, or crease into a three-dimensional form with cuts on surface of the form for decoration or texture. Fasten with slots and tabs or other means, using ingenuity but no pins or paste.

Lay on table or suspend.
Draw these in colors using chalk on paper with modeling.
Evaluate for closed and open forms, balance, feeling and movement, variety, dominant accent.

Appreciation of open and closed form in a work of art: modern sculpture of Henry Moore and others; mobilies by Calder; modern architecture; and designs on textiles.

COLLAGE

Combine materials of different textures.
Draw and color with chalk simulating the textures used in the collage.

ADVERTISING ART

Advertising is a means of communication from producer to consumer by the use of signs, leaflets, magazine and newspaper ads, posters; packaging involving use of paper, plastics and metals; trademarks, displays, show cards, photographic reproductions, handbills, record albums, book-jackets, brochures and letterheads.

READING AND DISCUSSION

Evolution of advertising:
  Primitive man, pile of stones to commemorate.
  Egyptians to find a slave.
  Romans selling.
  Medieval coats of arms and emblems as cow for butcher.
  Invention of printing and its effect on advertising.
  Modern methods:
    Radio, television, neon signs.
Importance of advertising in commerce, the purpose of which is to sell and distribute the products of industry.

Principles, requirements and limitations of the engraving and printing process.
Influence of advertising on individual taste.

ACTIVITIES

Keep a notebook with instructions, examples of lettering, thumb sketches.

Collect examples of advertising materials from railway, steamship, and airline companies or other sources.

Take trips to newspaper and printing plants including school printshop if there is one.

Study magazines and books on advertising and make reports.

Study work of contemporary advertising designers: Beall, Beyer, Brodovitch, Cassandra, Guisti, Rand, Thompson; illustrators: Atherton, Artzybasheff, Bock Kauffer, Lamotte, Martin, Shahn, Stahl.

SUGGESTIONS

Advertisement must be arresting and attractive to get the attention of the consumer.

Ethics of advertising must be emphasized, the need to be sincere and to avoid misrepresention.

Qualities of imagination, skill, perseverance, speed and dependability are essential for success in advertising.

Letterpress, linotype, offset, photoengraving, electrotype, stereotype, mimeograph and hectograph processes should be understood.

Color psychology in advertising must be considered.

EQUIPMENT AND MATERIALS

Media
  Pencils, hard and soft lead
  Pencils, colored
  Water color
  Poster paint
  Pencils, lithographic
  Pencils, 1/2" wide sketching
  Ink, black and white
  Ink, waterproof, black and colors

Paper
  Newsprint
  Newspapers
  Construction, colored
  Tonal, colored
  Tracing
  Carbon
  Water-color white
  Layout papers
  Stencil
  Illustration board
  Bristol board
  Corrugated cardboard
  Cardboard

Pens, lettering
Pens, felt
Pens, metal split flexible
Brushes, lettering
Brushes, several sizes
  Round and flat, soft and stiff bristles
Drawing boards
Scissors
Airbrush or flit gun
Linoleum or wood
T-squares
Stencil knives
Angles
Block-printing tools
Silk screen equipment

DESIGN FOR ADVERTISEMENTS

Project a **single** idea.

Develop idea **simple** and **dramatically** with strong emotional appeal.

Use methods described for layout.

Choose appropriate colors for subject portrayed.

Keep illustration as a unit and lettering as a unit.

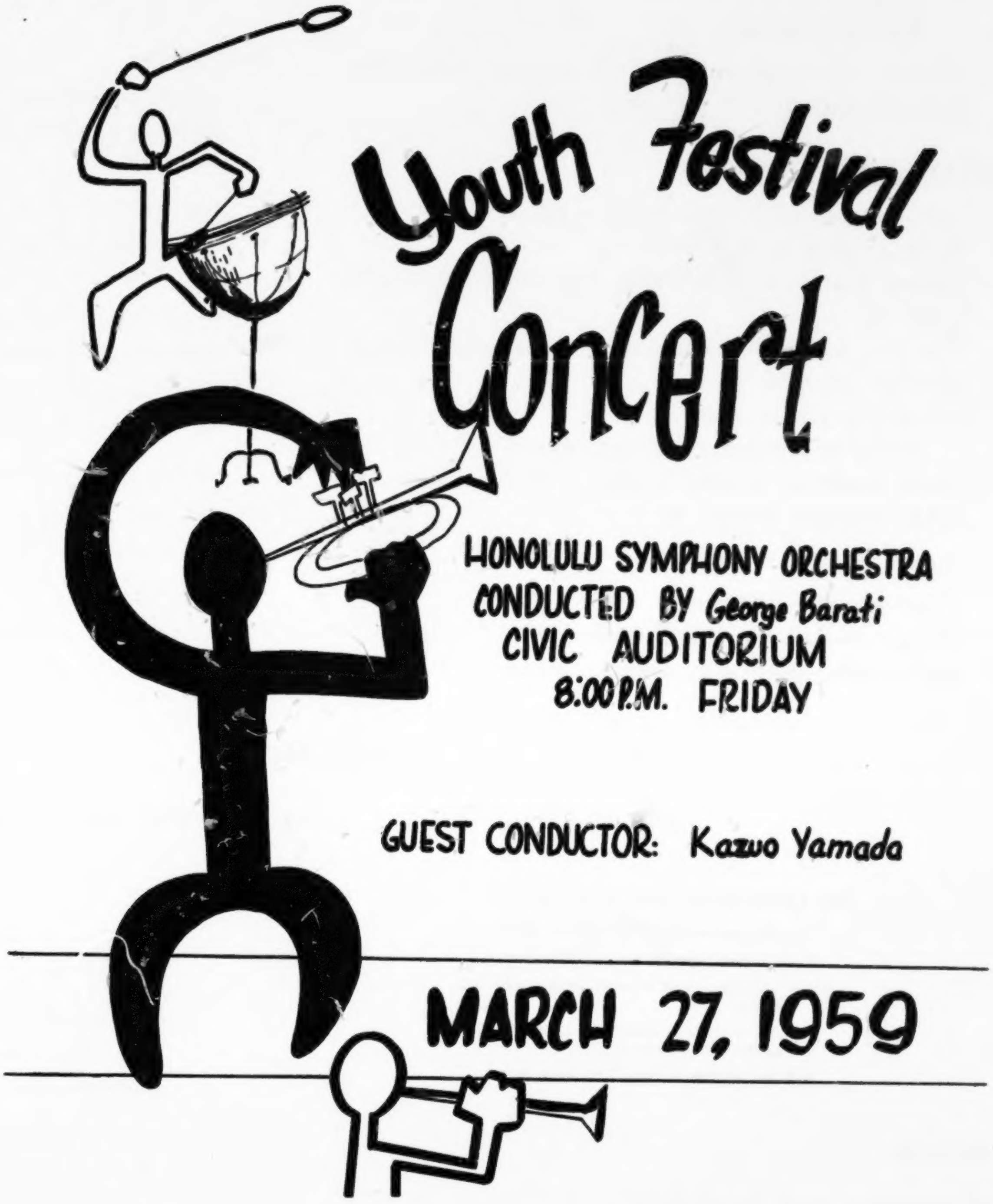
Practice lettering on trial strips of paper, correct and lay on background to check before lettering directly on the posterboard or paper. Then apply soft pencil to back of dummy and trace on posterboard.

Keep **all** elements simple with idea, lettering and color appropriate to the purpose.

The design should be surprising and attract attention by any one or combination of the following:

> striking design, brilliant color, striking contrast in values, one large outstanding word, meticulous lettering, simplicity, directness. Omit all unnecessary words or details.

Good design organization is the same as for drawing and painting. Refer to section on Advanced Drawing and Painting.


Youth Festival
Concert
HONOLULU SYMPHONY ORCHESTRA
CONDUCTED BY George Barati
CIVIC AUDITORIUM
8:00 P.M. FRIDAY
GUEST CONDUCTOR: Kazuo Yamada
MARCH 27, 1959

Poster

METHODS

Airbrush or flit gun techniques, toothbrush and razor blade spatter, silk screen methods, dry brush, scratchboard, block print, paper sculpture, combinations of materials and methods, direct drawing or painting, stenciling, printing in printshop.

LETTERING

Refer to section on Lettering and Posters.
Types related to use.
Simple basic types, upper and lower case.
  Manuscript, Gothic, Roman
  Stencil lettering
  Modern, original

Words legible, horizontal or at a slight slant and easy to read from a distance.

LETTERING ACTIVITIES

Practice lettering when need arises for designing.
Study origins of alphabets.
Collect examples of lettering from advertising and printing.
Practice strokes on lined paper, vertical, horizontal, curved, diagonal.
Fit words into a given area:
  Elongate the height or increase the width.
Space letters in a word to give a "feeling" of equal areas between letters.

Space between words about the size of an O.

Create original lettering.
Design bookplates, monograms, signs, posters, display cards, portfolios, phonograph record covers, magazine and book covers.
Use three-dimensional commercial letters for display. Tacks on back can be pressed into board.

Use IIOIIIIOIIIIOIIIO, a method for letter spacing in thumbsketches and the first practice strips for dummies or roughs.

LAYOUT

Good arrangement, using design elements and principles described under Advanced Drawing and Painting.

Illustrations by direct drawing or painting, cartooning or photography. See Cartooning under Beginning Drawing and Painting.

Make thumbsketches, paste-ups, pencil and pen and wash dummies.

Cut or tear paper shapes geometric or free form. Arrange on background. Study and rearrange.

Organize areas with intersecting lines.

Develop arrangement of type faces of varying sizes and weights. Use style of type available in school for school publications.

Use collage of materials such as paper or cloth.
  Refer to section on Collage.

RESOURCES

For Drawing, Painting, Cartooning and Advertising Art

The Code used for books is as follows:

- * — Recommended for school libraries
- # — Listed previously in Resources
- L.H. — Library of Hawaii, Music and Art Room
- A.A. — Honolulu Academy of Arts, Educational Department
- A.D. — Studio of the Art Director

BOOKS

Elementary and Secondary

#D'Amico, Victor. *Creative Teaching in Art.* Scranton, Pennsylvania: International Textbook Company, Inc., c1953. L.H., A.A., A.D.

Downer, Marion. *Discovering Design.* New York: Lothrop, Lee and Shepard Company, c1947. L.H., A.D.

See also previous list for Philosophy and Art Activities.

Secondary

Berkman, Aaron. *The Functional Line in Painting.* New York: Thomas Yoseloff, c 1957. L.H.

Bradshaw, Percy V. *The Magic of Line, A Study of Drawing Through the Ages.* New York: Studio Crowell, Inc., c1949. L.H.

Davis, Gladys Rockmore. *Pastel Painting.* New York: Studio Crowell, Inc., c1943. L.H.

*Dehn, Adolf. *Water Color, Gouache and Casein Painting.* New York: Studio Crowell, Inc., c1955. A.D.

Dow, A. W. *Composition.* New York: Doubleday, Doran and Company, Inc., c1931. L.H., A.A.

Egbert, Lyn and Barnet, Ruth. *Free Brush Designing* New York: Lothrop, Lee and Shepard Company, Inc., c1948. A.D.

Emerson, Sybil. *Design, A Creative Approach.* Scranton, Pennsylvania: International Textbook Company, c1953. L.H., A.A., A.D.

Loran, Erle. *Cézanne's Composition.* Berkeley, California: University of California Press, c1950.

*Nicolaides, Kimon. *The Natural Way to Draw* Boston, Massachusetts: Houghton Mifflin Company, c1941. L.H., A.D.

Rasmussen, Henry N. *Art Structure, A Textbook of Creative Design.* New York: McGraw-Hill Book Company, Inc., c1950. L.H., A.A., A.D.

Richmond, Leonard. *From the Sketch to the Finished Picture, Oil Painting.* New York: Pitman Publishing Company, c1953.

Richmond, Leonard. *From the Sketch to the Finished Picture, Watercolor Painting.* New York: Pitman Publishing Company, c1954. L.H.

Sears, Elinor Lathrop. *Pastel Painting.* New York: Watson-Guptill Publications, Inc., c1947. L.H.

Shahn, Ben. *The Shape of Content.* Cambridge, Massachusetts: The Harvard University Press, c1957. L.H., A.A., A.D.

Smith, Janet K. *Design, An Introduction.* New York: Ziff-Davis Publishing Company, c1946. L.H., A.A.

Sternberg, Harry. *Composition, The Anatomy of Picture Making.* New York: Pitman Publishing Corporation, c1958. L.H.

*Wickiser, Ralph L. *An Introduction to Art Activities.* New York: Henry Holt and Company, c1947. L.H., A.A., A.D.

Zaidenberg, Arthur. *Anyone Can Paint.* New York: Crown Publishers, c1942. A.D.

CARTOONING

Auerbach-Levy, W. *Is That Me?* New York: Watson-Guptill Publications Inc., c1947. L.H.

Taylor, R. *Introduction to Cartooning.* New York: Watson-Guptill Publications, Inc., c1947. L.H.

ADVERTISING ART

Secondary

Allner, W. H. *Posters.* New Jersey: Reinhold Publishing Corporation, c1952. L.H.

Ballinger, Raymond A. *Layout.* New York: Reinhold Publishing Corporation, c1956. A.D.

Cooper, Austin. *Making a Poster.* New York: Studio Crowell, Inc., c1938. L.H., A.A.

Douglas, Ralph. *Calligraphic Lettering with Wide Pen and Brush.* New York: Watson-Guptill Publications, Inc., c1949. L.H.

Loisy, Jean. *Advanced Style in Lettering.* New York: Sterling Publishing Company, Inc., c1953. L.H.

Thompson, Tommy. *Basic Layout Design.* New York: Studio Crowell, Inc., c1950. L.H.

FILMS

Grade Level	Title	Color	Time
K-6	Fiddle De Dee	Color	5 min.
K-12	Art and Motion (design in motion)	Color	17 "
1-3	Finger Painting	Color	5½ "
4-12	Art and You (appreciation)	Color	10 "
4-12	Design to Music	Color	5½ "
4-12	Exploring in Paint	Color	11 "
4-12	Rhythm in Paint	Color	10 "
4-12	Texture	Color	6 "
5-7	Picture Making at the Gang Age	Color	6 "
5-12	Art in Our World (nature)	Color	11 "
7-12	Brush Techniques	Color	10 "
7-12	Elements of Design (composition)	B & W	11 "
7-12	Elements of Design (light and shade)	B & W	10 "
7-12	Elements of Design (shape)	B & W	10 "
7-12	Paint as You Please	Color	17 "
7-12	Painting an Abstraction	Color	17 "
7-12	Picture Making by Teenagers	Color	10 "

FILMSTRIPS

Grade Level	Title	Color	Frames
1-4	Painting	Color	32 frames

2-4	Water Color Painting	Color	30	"
3-4	Drawing	Color	31	"
4-7	Painting with Water Colors	Color	31	"
6-9	Sketching with Crayons	Color	37	"
7-12	Let's Look at a Painting	Color	63	"
7-12	American Scene	Color	57	"
7-12	Realism	Color	64	"
7-12	Romanticism	Color	58	"
7-12	Modernism	Color	61	"
Teachers of K-1	Finger Painting	Color	35	"

MURALS AND FRIEZES

In designing a mural, there should be a desire to illustrate an idea which grows out of an experience or a need to decorate a particular space on a wall. The mural may be painted on paper or wallboard and then attached to the wall space or it may be painted directly on the wall.

A frieze is a decorated strip usually in the space above blackboards or bulletin boards in a classroom. Objects or figures in the frieze should be large enough to be easily visible.

VALUES

Mural painting stimulates the imagination of pupils at all age levels and of all levels of ability.

There is a social value because it is a group activity. The children plan and do research together, share ideas and responsibilities and develop consideration of others.

Aesthetic value comes when it is truly a creative project.

It encourages large and free movement where the forms are large.

It is a means of integration with other areas of learning such as language arts, social studies, music, physical education and the sciences.

SUGGESTIONS

It is better to have the mural fit the complete space. If space is limited, hang murals in hallways, offices or cafeteria. Give each child the opportunity during the year to work on a mural, not only the gifted.

The teacher guides rather than directs in the choosing of the theme and in the execution of the mural The subject matter chosen should be suited to the ability of the age level. It should be chosen by the group making the mural and not be the choice of one pupil.

A mural may show a series of events happening at different times with all parts blended together, not separated by lines, or it could show a number of things happening at the same time. It is an organization of parts such as the story of sugar or pineapple, life in old Hawaii or family life. It is more than an enlarged easel painting.

The pupils should do research for information before they plan the mural, but keep the drawing or painting original.

Work large, considering the size of space and number of figures and objects to be in the mural. Avoid large areas of empty space.

More spontaneous work will come from very young children if they do not draw with pencil or chalk first because it results in small tight drawings. Drawing with the brush and painting directly on the paper encourages large free movements.

Young children working in committees must be under continual guidance from the teacher. Older pupils may use a more advanced or mature approach in planning the work by choosing a chairman with one or more committees. The combining of ideas and placement is a group process with the group chairman as leader. The group discusses and plans where the figures and objects will be placed and what colors to use. These ideas may be sketched with thin paint, chalk or charcoal, evaluated for corrections and then painted.

Another way is for each pupil to sketch his idea on paper first and these are combined and enlarged on the large mural background. These should not be separated by lines, but blend one to another to form a unified whole.

Backgrounds may be painted first or last. They may be stippled with a sponge or painted with a sponge or large brush. Painting the background last depends on the maturity of the groups since it is difficult for young children to paint around figures and objects.

The pupils would evaluate the progress of the mural occasionally so as to correct mistakes which are likely to occur if the process becomes too individual.

What happens to the pupil while he is working is more important than the finished result. However, all the children will wish to work to the best of their ability to make the mural a success.

GROUP EVALUATION

Is the space well filled?
Did we work large enough?
Did we keep important things important? Are there large, middle sized and small things?
Did we use some light colors and some dark colors?
Does our background stay back?
Do all things in the mural belong together?
Other questions may be asked.

Work at all times should be evaluated in a positive way so that no one's feelings are hurt. The mural should be displayed just as long as there is a need and interest.

WORKING SPACE AND MATERIALS FOR BACKGROUND

Wrapping paper or colored paper in roll, large sheets fastened together, old window shades or the back of oilcloth should be attached with masking tape (parallel to edge of paper) to blackboard, wall or bulletin board. Or the background material may be spread on floor, table, lanai or any other available space with newspapers under the outer edges. Wallboard, canec or masonite may be used for more permanent murals.

TYPES OF MURALS

PAINTING, CUTOUT AND PASTE ON MURAL

EQUIPMENT AND MATERIALS

- Scissors
- Staplers
- Pins
- Brushes
- Sponges
- Large wrapping or colored paper
- Poster paint
- Masking tape
- Paste, thin

PROCEDURE

Decide on space for the mural.

Cut the paper for background, allowing a few inches to fold under on both ends.

Attach to wall with masking tape parallel to edge of paper or place on floor or tables protected by newspapers.

Plan what figures and objects are needed.

Plan colors and paint the background, using sponges or large brushes.

Each child paints the figure or object he chose to represent and he cuts it out when dry.

After all figures and objects are cut out, children plan together where they will be placed on the mural. These may be pinned, pasted or stapled onto the background.

Upon completion, time should be allowed for evaluation by the children.

DIRECT PAINTING MURAL

EQUIPMENT AND MATERIALS

- Large wrapping paper
- Masking tape
- Poster paint
- Brushes
- Sponges

PROCEDURE

Have a discussion to choose the subject that is of interest to everyone. Each child decides which part he wishes to paint and where it should be painted.

The work is then begun and the children are allowed to create in their own way.

An occasional evaluation should be made as work progresses.

They may or may not choose to paint the background.

Have group evaluation when finished.

TORN PAPER OR CUT PAPER MURAL

MATERIALS

Wrapping paper or large colored paper.
Colored construction or tonal paper.
Scrap paper of all kinds: wallpaper, decorative or textured paper.
Light-weight cardboard
Paste, thin

PROCEDURE

Plan as in cutout mural. Tear or cut figures and objects without drawing first.
Proceed as in cutout mural.

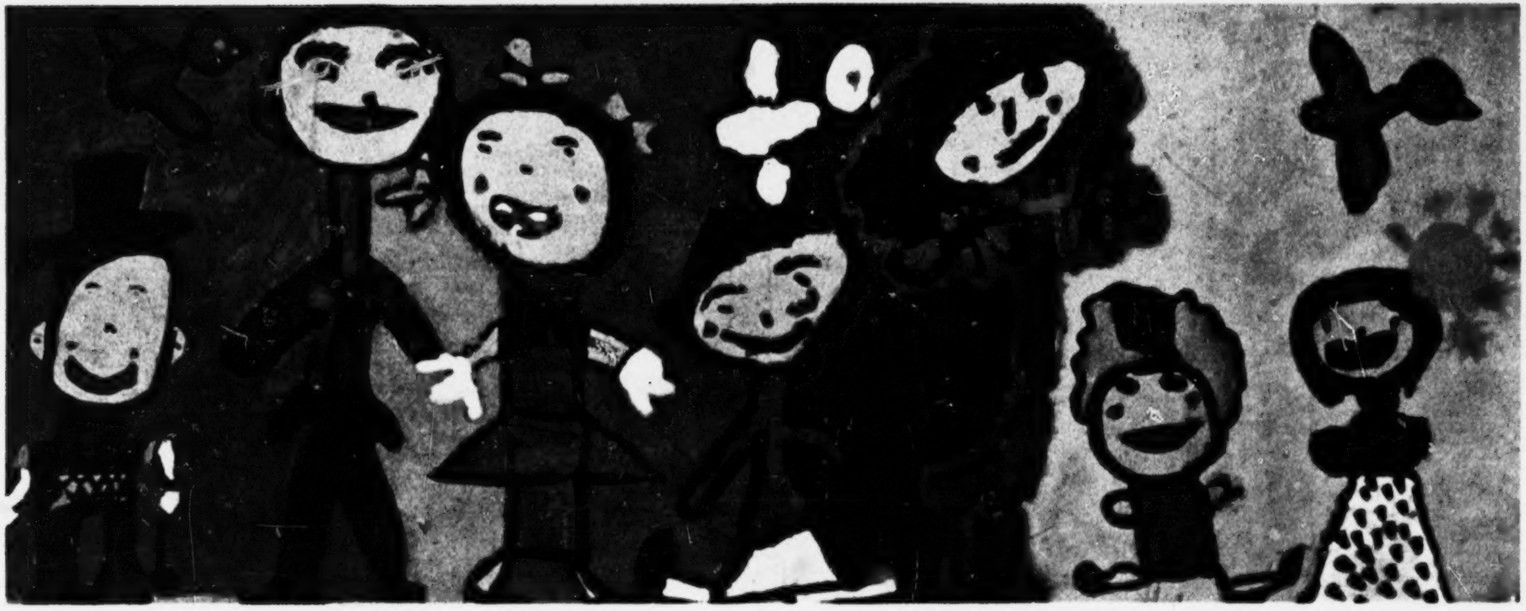
COLLAGE MURAL

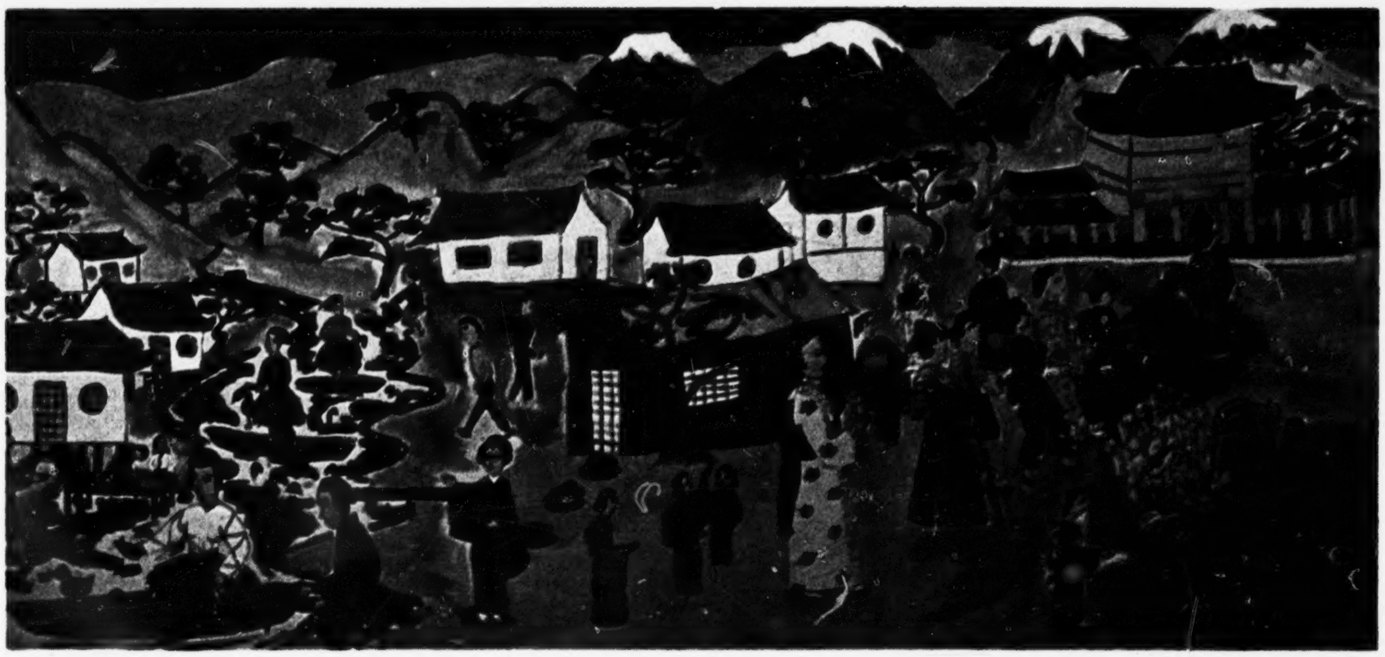
MATERIALS

Wrapping paper or bulletin board.

Murals

Grade 1—Ages 6 and 7





Social Studies Unit—Grade 6

Scrap materials: paper cardboard, cloth, metal, wire, string, rope, yarn, twigs, dried grasses and leaves, shells and sand.

Refer to list of materials under Exploring and Experimenting.

PROCEDURE

Refer to section on Collage.

MURALS—GRADES 7 TO 12

Use any of the preceding methods for murals.

Add the following:

Oil painting on canvas, wallboard, masonite or dry plaster wall.

Fresco painting on canec panels or on a brick, stone or cement wall.

FRESCO

Fresco is the most natural medium for murals because the mortar (plaster) on which the painting is done is applied directly to the brick, stone or cement of the wall and the painting is done directly on the wet mortar. When the mortar is dry, the painting becomes part of the material of the wall.

Fresco painting has been used for centuries to decorate walls of homes, churches and buildings beginning with those done by the early Egyptians, Minoans, Greeks and Romans. In the last fifty years there has been a great interest in fresco painting in Mexico which has spread to the United States including Hawaii.

Frescos may be large or small. They can be painted on hollow tile, brick, stone or cement walls in a school corridor, the library, the cafetorium, the outside wall of a building, a wall near a garden or in a home. Fresco paintings may also be made on a rough surface such as canec or wallboard panels which will hold the lime mortar. The panels may be set into or against the wall after the painting is dry.

Fresco is an excellent medium for the art classroom. Small panels can be made by using small canec or wallboard or by pouring the mortar into a wood frame. These will be fresco paintings made for the school or to be used at home. The cost of equipment and material is small.

EQUIPMENT AND MATERIALS

Colors, limeproof
  Powdered dry
Brushes, any soft
  Oriental bamboo
  Sable or camel's hair
3" Nail, blunt or blunt handle of a brush
Paper, heavy wrapping
Paper, heavy tracing
Brush, large and wide
Cement
Rags
Charcoal or pencil
Trowels
Slaked lime or Dry Miracle lime
Sand (washed), fine volcanic ash or marble dust
Opaque white plate, plastic egg container or other type palette
A wall, canec, composition wallboard or wood frame
Wire mesh or fine chicken wire

THE PRELIMINARY DESIGN

The design may be pictorial or abstract. If small panels are made, the design will be a fresco painting. This will give a larger number of students an opportunity to learn the technique of fresco. Make a color sketch first, then a cartoon. Follow directions described below for cartoon.

When designing for a mural, students should be shown murals or reproductions to see that a mural must be planned with reference to the architecture of the room that is to be decorated. From observation they will see that a mural is more than just a large painting.

The design for the mural may be made by an individual or a group. Make a color sketch in detail including all color areas. Make this drawing to scale.

THE CARTOON

For a small panel cut a piece of heavy wrapping paper the same size as the canec, wallboard or wood frame.

For a mural cut the paper the same size as the space of the wall to be decorated. With charcoal or pencil prepare a full sized outline drawing called a cartoon. Since the cartoon becomes the working drawing for the mural, necessary changes must be made at this time. Major changes are difficult to make after painting is started. Values of light to dark may be painted on the cartoon for future reference.

BLANK PAGE

FIRST OR UNDERLAY COAT OF PLASTER

The first coat of plaster or mortar is called a "brown coating." After panel, frame or wall surface has been prepared, mix 4 parts sand, 1 part slaked lime, 1/4 part cement with enough water to be the consistency of butter. It should be rough in texture.

PREPARATION OF SURFACES

Canec or Wallboard

Scratch or score surface of canec or wallboard.

Wet thoroughly with water overnight.

Trowel the first "brown coat" of plaster over surface about 1/2" thick.

Cut wire mesh or chicken wire slightly smaller than the canec or wallboard.

Sink the wire into the plaster so it is covered.

Let the plaster remain rough.

Allow this underlay to dry.

Wood frame

Make a frame of four pieces of wood about 1½" high.

Place over a piece of canvas or stiff, thick cardboard.

Trowel "brown coat" of plaster into this frame about 1/2" thick.

Sink wire into the plaster.

Allow this underlay to dry.

Or tack a backing of canec or wallboard onto the wood frame, wet it thoroughly and proceed the same way.

PREPARATION OF WALL

Hollow tile, brick, stone or cement wall

Clean by washing, then allow to dry. Plaster will not adhere to a damp wall.

Fill holes or cracks with plaster.

Scratch up a smooth wall.

Wet wall thoroughly with water by slapping it on with the large, wide brush.

Trowel the first "brown coat" over the wall about 1/2" thick

Let it remain rough.

Allow this underlay to dry.

Plaster wall

A plaster wall requires careful preparation because it will not hold the mortar.

It is probably better for students to paint a mural on a plaster wall with oils.

If there is a good surface under the plaster, it can be removed. Then proceed as for a brick wall.

The Tracing

For a small panel transfer the design to tracing paper from the cartoon.

For a large mural the dry wall surface and the cartoon must be squared or divided into sections of about 1 square yard in size. This size unit is easy to work with. Now draw the design in simple outlines on the wall, full-size, with charcoal or red crayon, using the cartoon as a guide. Then trace a drawing on the heavy tracing paper from the cartoon with black or red pencil for each square yard section.

Second Coat of Plaster

This coat is the wet mortar on which the design will be painted. Mix 6 parts sand, 6 parts slaked lime and 1/4 part cement with enough water to be the consistency of butter. Dry Miracle lime may be used in place of the usual moist slaked lime and mixed dry with the sand and cement before adding water.

Mix just enough plaster to cover an area 42" x 42" to extend 3" on all four sides beyond the square unit of tracing paper. This is enough for one day's work.

Begin working the sections at the top or sides of the mural. If a bottom section was painted first, dripping from above would damage the finished work.

PROCEDURE FOR ONE SQUARE UNIT

Mark with red pencil or crayon the boundaries of the 42" x 42" square to be plastered.

Slap water on the dry wall with the large brush.

Apply the second coat of plaster form 3/8" to 1/2" thick with the trowel within the square. Don't overtrowel. Try to have the surface as smooth as possible with no trowel marks. Work from top of square to bottom. This mixture is rough so it is necessary to trowel on a skin of pure slaked lime to give a clean, smooth surface.

For a small panel or a unit of a mural place tracing against the mortar and anchor it with masking tape. Try tracing with nail on the edge of the tracing paper in the 3" margin of mortar to see if the mortar is firm enough to make a groove. Carefully trace the penciled lines with a blunt nail or the blunt end of a paint brush to make grooves in the moist mortar. Hold the nail or brush at an angle and pull it so it will not cut through the paper because the groove would become rough and hard to paint.

Remove the tracing from the mortar. By this time the plaster will probably be ready for painting. Paint may be applied on the plaster within about thirty minutes after it is on the wall. It must not be too wet or the colors will not take. Painting on the one square unit should be finished in the one day's work. It will be too dry the next day.

The margin of plaster around this section of design may be used for trying out colors since it is cut away later.

PREPARATION OF COLORS

Mix each dry color with water. It should be like a dye. Place in jars with covers. Use like water colors.

PAINTING WITH THE TRANSPARENT METHOD

Place a few colors needed on palette.

Try out colors, when necessary, on the 3" margin of mortar. When the plaster has dried a little, after thirty minutes, it should "pull" at the paint from the brush. This is the proper consistency.

Lay the color on gently. Avoid scrubbing or the surface will rough up and the color becomes muddy. Avoid picking up dry pigment on the brush. The water is necessary so the colors will be drawn into the mortar.

Painting usually begins with very light washes of neutral colors which flow into the grooves made by the nails and become the outlines of the forms in the design. Avoid overlapping of color into another color area beyond the groove.

If light neutral colors are used for the underpainting, successive tones of transparent colors may be laid one over the other, resulting in a luminous quality. These tones will range from light to dark. Sometimes a darker value is achieved by cross hatching. Colors may be mixed, but avoid muddy color.

The cartoon of a mural which shows the light and dark values should be hung in sight of all the painters and must be followed carefully to achieve the effect planned. Add a light neutral color for joining as work progresses. Later fill in with the right color. Refer to the small color sketch for colors to be used.

If a drip comes down, quickly dry the brush between fingers and pick up the drip fast or flood it off with a little water. Then pick up the water fast as in water-color painting.

The color of the wet mortar is rather gray, sometimes quite dark, so it must be kept in mind that the mortar when dry will be many shades lighter, an off-white. Therefore, the colors must be adjusted in relation to each other with this drying factor in mind. In most frescos, some parts of the mortar are left unpainted to "acknowledge the wall' as Jean Charlot puts it. The light part of the wall furnishes the white of the painting as the white paper does in a water-color painting.

Keying the color to the white of the mortar results in a soft brilliance with few really deep darks such as one expects in an oil painting which covers all areas. Another factor which makes fresco a natural for murals is that the wall actually comes to the surface as part of the composition.

After the fresco dries, which takes weeks and months, the lime solution in the mortar rises to the surface and seals in the colors with a thin coating of lime stone glaze, thus preserving the colors permanently. Only water seepage from the back of a fresco can damage it.

Retouching is possible on a fresco that is too dry to receive and hold water color. However, in order to make the color stick to the dry mortar, lime must be mixed with all the colors. Lime has a tendency to make colors opaque in secco so use sparingly. This painting with lime mixed colors on a dry fresco is called "secco" (dry) painting.

CUTTING AWAY THE PLASTER

When the painting is completed on each square unit of a mural, the extra margin of plaster must be cut away the same day or early the next day while the mortar is still damp.

Make an outline a little beyond the painting with with a crayon. Cut this second coat of plaster away at an outward slant or bevel and not straight down nor under. The next plastered area will be troweled over this cut edge which will avoid cracks. Use a stiff small trowel or putty knife. Score a groove, then chip off the plaster only down to the first underlay coat.

RESOURCES

The Code used for books is as follows:

*** — Recommended for school libraries**
# — Listed previously in Resources
L.H. — Library of Hawaii, Music and Art Room
A.A. — Honolulu Academy of Arts, Educational Department
A.D. — Studio of the Art Director

BOOKS

Elementary and Secondary

#D'Amico, Victor. *Creative Teaching in Art.* Scranton, Pennsylvania: International Textbook Company, c1953. Chapter Three, "The Child As Mural Painter." L.H., A.A., A.D.

*Randall, Arne W. *Murals for Schools, Sharing Creative Experiences.* Worcester, Massachusetts: The Davis Press, Inc., c1956. A.D.

FILMS

Grade Level	Title	Color	Time
1-6	Mural Making	Color	6 min.
7-12	Making of a Mural	Color	10 "

FILMSTRIP

Grade Level	Title	Color	Frames
4-7	Making a Mural	Color	37 frames

MURALS IN HAWAII

Hawaii is fortunate to have murals on several islands made by local artists. Some of the murals are listed below.

Oahu—Fresco

University of Hawaii — Five murals by Jean Charlot, Juliette May Fraser, Richard Lucier, Sueko Kimura and David Asherman.

Palama Settlement — Four murals by David Asherman, Janet Kimura and John Lochtefeld.

Bishop National Bank, Waikiki Branch—Jean Charlot.

Chinese Cemetery Pavilion, Manoa Valley — Tseng Yu-ho.

Hawaiian Village Hotel — Jean Charlot.

Board of Water Supply — Juliette May Fraser.

Chinese Chamber of Commerce — Beverly Willis.

ILWU Headquarters — Pablo O'Higgins.

Koolau Training School for Boys and

Kawailoa Training School for Girls — Pupils of David Asherman.

Sacred Hearts Church, Waianae—Sister Anne Pierre.

Kauai—Fresco

St. Catherine's Church, Kealia — Jean Charlot, Juliette May Fraser and Tseng Yu-ho.

St. Sylvester's Church, Kilauea — Jean Charlot.

St. William's Church, Hanalei — Jean Charlot.

Oahu—Oil

Library of Hawaii—Juliette May Fraser.

Board of Water Supply, Mural Map of Oahu — Juliette May Fraser.

St. Andrew's Park Memorial Chapel — Juliette May Fraser.

The Medical Group — Martha Alexander.
Bishop Museum — Paul Lockwood.

Hawaii—Oil

Kilauea National Park — Paul Lockwood.

Oahu—Water Color on Paper

Princess Kaiulani Hotel, Mural Screens — Tseng Yu-ho.

Oahu—Collage

Bishop National Bank Kapiolani Branch — Ben Norris.

Oahu—Mosaic

Mid-Pacific Institute — Juliette May Fraser.
The Kamehameha Schools — Grades 5, 6 and 7, pupils of Louis Pohl.

Oahu—Faceted Chipped Glass Set in Cement.

Our Lady of Sorrows Church, The Pieta Window, Wahiawa—Erica Karawina.

COLLAGE

Collage is an organization of materials of different textures such as paper, corrugated paper, sand paper or cloth. There is no limit to the types of materials which may be used and no limit to the ways in which they may be combined. However, a collage may be made of cut or torn paper shapes only, pasted and combined with painting, using ink or paint.

A collage may be abstract or realistic. It may be two-dimensional or three-dimensional. When a collage is three-dimensional, it can be called design in space even though the third dimension is limited to not more than half an inch from the cardboard or paper to which it is attached. Although a collage may be three-dimensional, it is essentially the same as a painting.

VALUES

It stimulates imagination and encourages imaginative use of various materials.

It has a tactile value because the pupil can actually feel, as well as see, the form and textures.

It furnishes a knowledge of the characteristics of materials, for example, paper can be rolled but wood must be handled in a different way.

USES FOR COLLAGE

Pictures
Posters
Abstract designs
Greeting cards
Murals

EQUIPMENT AND MATERIALS

Scissors
Staplers
Pliers
Metal shears
Awl or ice pick
Needles
Heavy thread
Wood or vegetable glue

Household cement or other quick-setting glue
Library or wheat paste
Scotch and masking tape
Cardboard or heavy paper
Corrugated cardboard
Canec or wallboard

Paper: colored construction or tonal and Japanese rice paper, white or colored

Refer to list of materials under Exploring and Experimenting.

PROCEDURE

Group the scrap or other materials according to type such as different kinds of paper, various types of metal, textiles or wood.

Attention should be given to the texture of materials by letting the children feel the surface and telling how it feels or looks: soft or scratchy, rough or smooth, shiny or dull. The younger children call a collage a "feeling" picture.

They should observe that some materials are plain and some have pattern.

For an abstract picture the pupil may choose materials he likes and fasten them in his own way in a design on a stiff background. He may use the forms as they are or he may cut or tear them.

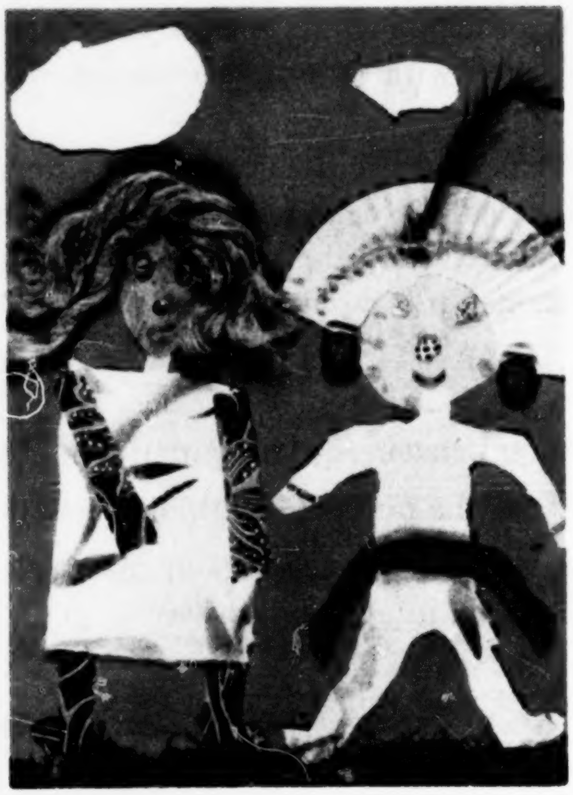
Torn rice paper of different colors, overlapping, may be pasted and combined with ink or paint.

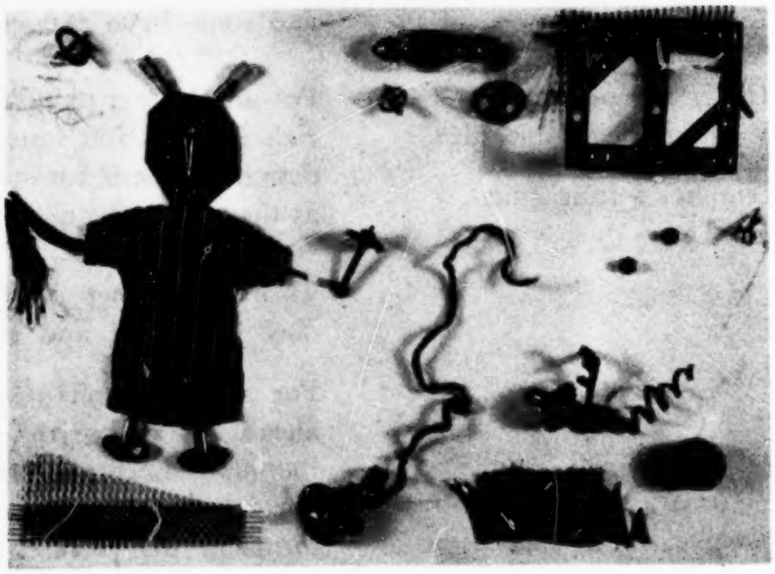
For a realistic picture the pupil will need to plan ahead and choose the things he needs to complete the plan. Encourage him to make something important. There may be small, middlesized and large forms in the picture.

In making a collage pupils should think for themselves and arrange the forms on the background, evaluate and rearrange if necessary. Then they should decide whether to paste, glue or staple.

Evaluation should be done just as for paintings.

Collage—Age 10





RESOURCES

The Code used for books is as follows:

- *** — Recommended for school libraries**
- **# — Listed previously in Resources**
- **L.H. — Library of Hawaii, Music and Art Room**
- **A.A. — Honolulu Academy of Arts, Educational Department**
- **A.D. — Studio of the Art Director**

BOOKS

Elementary and Secondary

#D'Amico, Victor; Wilson, Frances; Maser, Moreen. *Art for the Family*. The Museum of Modern Art, New York. New York: Simon and Schuster, c1954. A.A., A.D.

#D'Amico, Victor. *Creative Teaching in Art*. Scranton, Pennsylvania: International Textbook Company, c1953. Chapter Seven. L.H., A.A., A.D.

#Lord, Lois. *Collage and Construction in Elementary and Junior High Schools*. Worcester, Massachusetts: The Davis Press, Inc., c1958. A.A., A.D.

CHALK

Colored chalk is a good medium for large pictures and murals. It enables children to work freely due to the quality of the material.

MATERIALS

Paper: plain, colored or painted

Chalk, white and colored

Sponges

SUGGESTIONS

Vary pressure for heavy or light lines.

Use both the end or side of chalk.

Colors may be blended by applying one over another.

Paper may be used dry or wet.

Paper may be wet with a cloth, sponge or the hand. A pad of wet newspaper under the drawing paper will keep the surface moist. Wet paper gives broad strong chalk lines and masses. Experiment with different kinds and colors of paper. When the picture is completed, place it on a sheet of newspaper so that it will dry flat.

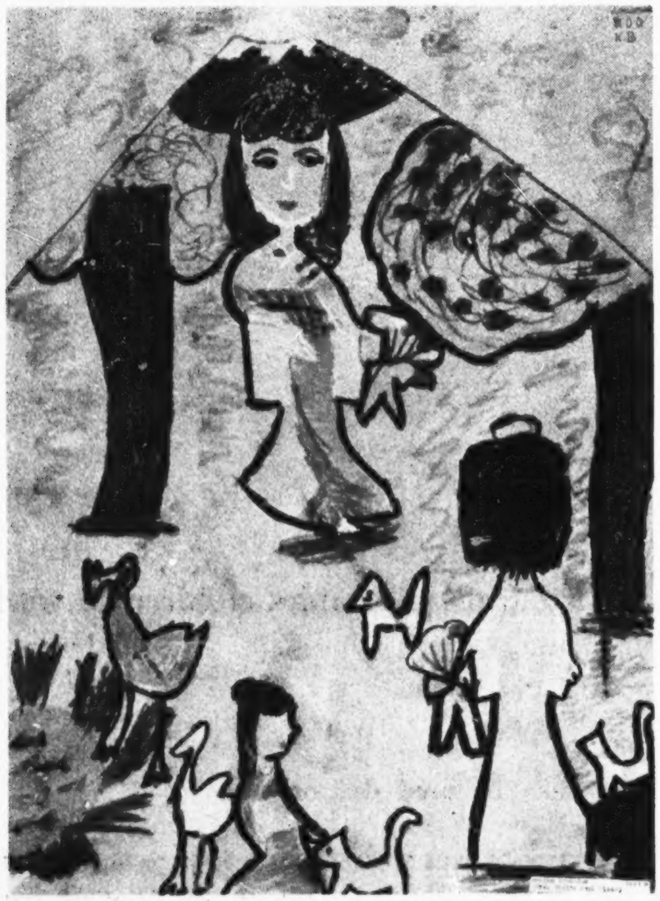
If a wet paper dries quickly while working, sponge any unused areas again with water. It can also be sprayed with water using a flit gun.

Paper may be sponged with milk or buttermilk previous to working. The chalk with buttermilk will resemble casein paint.

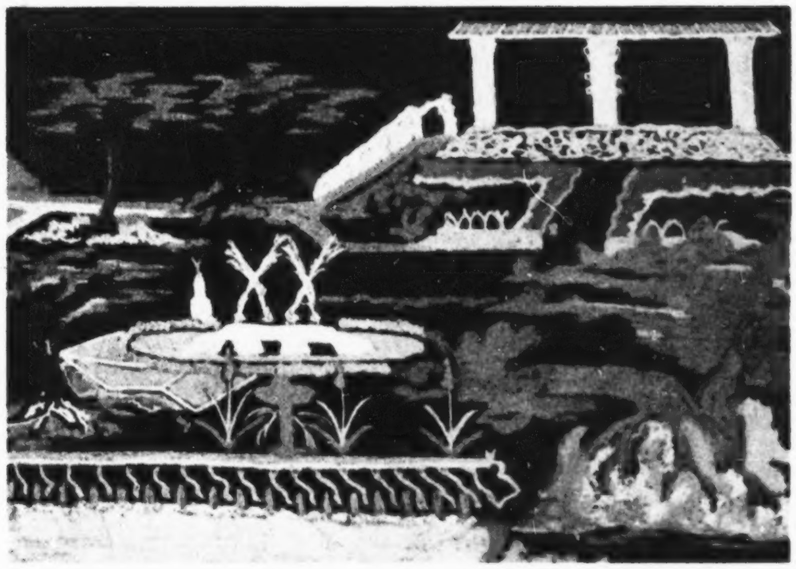
Rest hand on a piece of paper to avoid smearing if working on dry paper at a table. Standing while working will help to prevent smearing. Paper may be fastened to blackboard with masking tape.

To set chalk so it won't rub off, spray with skimmed milk, whey from sour milk, commercial fixitive, wallpaper lacquer, 1 teaspoon of paste mixed in a glass of water or equal parts of liquid starch and water. Use a flit gun. Spray lightly two or three times with the paper flat, avoiding too wet an application.

Colored Chalk



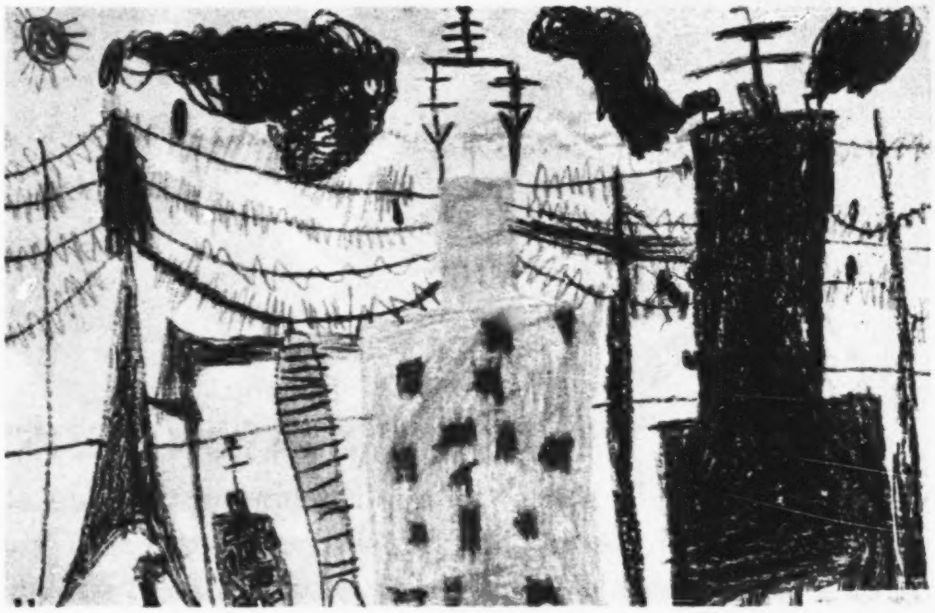
Age 8



Age 13

WAX CRAYON

Wax crayons are suitable for the activities listed below. Crayons may be used as a supplement to other drawing and painting media, but paint and colored chalk are preferable for large pictures and murals.



Wax Crayon Drawing—Age 6

USES

- Illustrations
- Book covers
- Maps
- Greeting cards
- Lettering
- Decorative design
- Gift wrappings
- Stenciling
- Wax crayon resist
- Wax crayon etching
- Wax crayon painting
- Wax crayon encaustic
- Wax crayon transparencies

MATERIALS

Wax crayons in a complete range of colors

Oversize crayons for primary grades

All sizes of crayons for higher grades

Broken crayons with paper removed and stored in a shallow box

Paper: unlined, plain or colored, rough or smooth

SUGGESTIONS

Encourage experimentation by using crayons in various ways: point, side and blunt end. Use blunt end for wide lines. Remove wrapping and use sides of short broken crayons for large areas such as sky, water or background and also for broad strong strokes. Or use thin wash of poster paint for background. Refer to section Wax Crayon Resist.

Draw with crayon directly on paper or cloth. Previous pencil drawing results in tight work and loss of spontaneity.

Use light, medium and heavy pressures for different effects in texture or for dark and light. Press hard to fill in an area for brilliant color.

Apply layers of the same color or different colors one over another to get the effect of oil paint.

Some colors may be blended for unusual effects.

Use blunt end or side of a short piece of crayon for lettering on posters. Use point of crayon for lettering on greeting cards and booklets.

DECORATIVE METHODS

Place paper or cloth over burlap, wire screen, sandpaper, or grooved material such as corrugated paper or cardboard, rough or grooved wood or rocks. Rub crayon over it for textured effects.

Outline an area occasionally with black or white or a color for emphasis, if necessary.

Save shavings after sharpening crayons. Spread over paper. Cover with newsprint and press with a warm iron for textured pattern.

EVALUATION

Pressure should be strong enough so the picture or design will be forceful. Crayon drawings are often weak with no contrast in dark and light. However, very young children should develop this pressure gradually as their small muscles become stronger.

Figures and objects drawn large for the space help to keep the work free. Too often the children try to tell too much on a small piece of paper. Help them to choose or eliminate. If necessary, use larger paper.

RESOURCE

The Code used for books is as follows:

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- **A.A. — Honolulu Academy of Arts, Educational Department**
- **A.D. — Studio of the Art Director**

BOOK

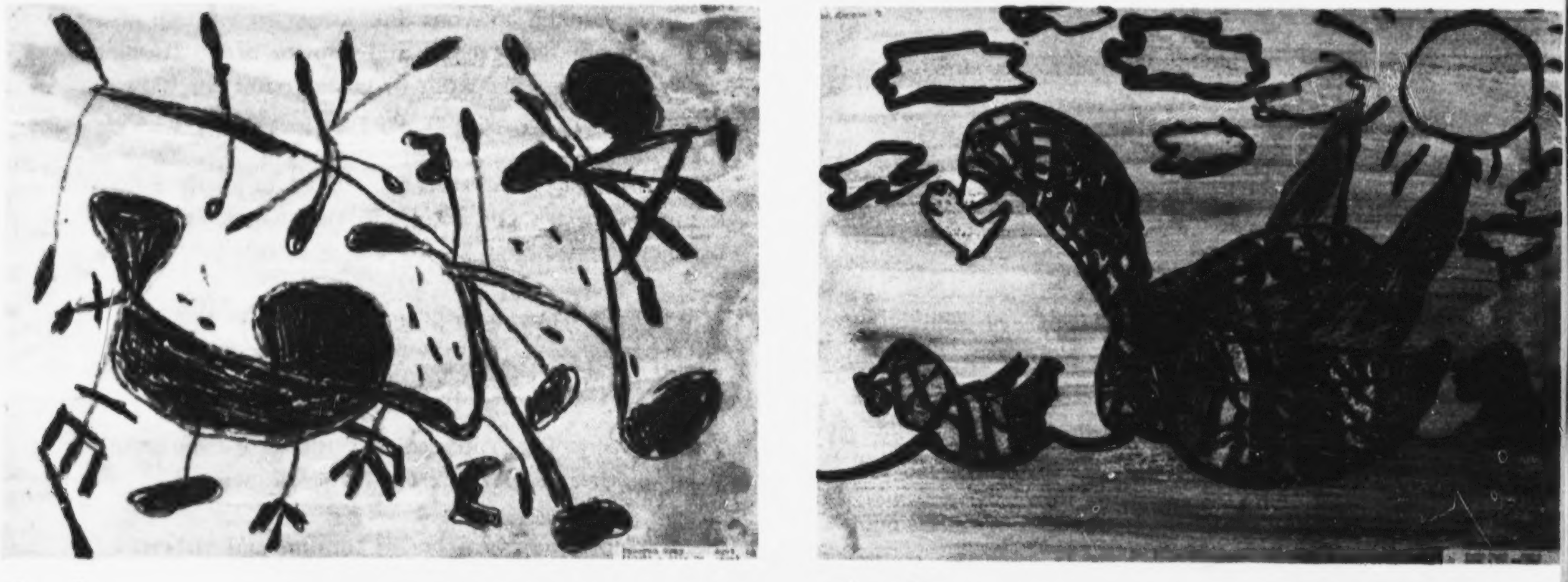
Elementary and Secondary

Boylston, Elise Reid. *Creative Expression with Crayons.* Worcester, Massachusetts: The Davis Press, Inc., c1954. L.H., A.D.

WAX CRAYON RESIST

Wax crayon resist is a heavily applied crayon drawing or decorative design with a wash of water color or thinned poster paint brushed or sponged over the entire surface. A wash is the covering of a surface with water color or poster paint in strokes that overlap. It may be of uniform value, a gradual blending from dark to light or light to dark or of more than one color.

Wax Crayon Resist



Age 5

Age 8

USES

Pictures	Gift wrappings
Decorative design	Book covers
Greeting cards	

EQUIPMENT AND MATERIALS

Wax crayons
Paper: white, cream or very light color
Brushes or sponges
Poster paint or water color

PROCEDURE

Color objects, figures or designs heavily with crayon, leaving the remainder of the paper blank. Press hard for single lines. Blank areas should not be too large. **Do not color background with crayon.**

Prepare wash by adding water to either water color or poster paint of color desired which will contrast with crayon colors.

Brush or sponge the paint over the entire paper including the crayon sections. Washes of different colors may be applied on different areas of the paper.

The blank areas on the paper absorb the wash. The crayon acts as a resist except in small spots which dry to give a rich textured effect.

If the wax crayon is hidden by the paint, the crayon may have been applied too lightly or the paint was not thinned enough.

VARIATIONS OR DIFFERENT METHODS

1. Colored or black India ink or waterproof ink may be used for the wash instead of paint.
2. Scratch out crayon for texture with fingernail or sharp tool when wash is dry.
3. When white paper is used, rubber cement may be applied directly on the paper where white is desired as part of the design. When paint or ink is dry, rub off the rubber cement with paper towel, soft cloth or finger.

RESOURCE

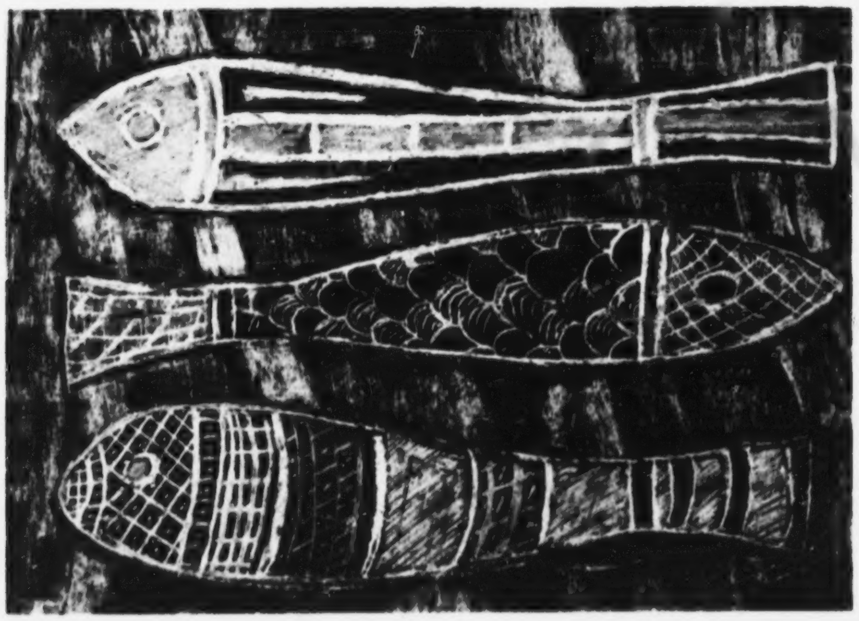
FILM

Grade Level	Title	Color	Time
4-12	Crayon Resist	Color	5 min.

WAX CRAYON ETCHING

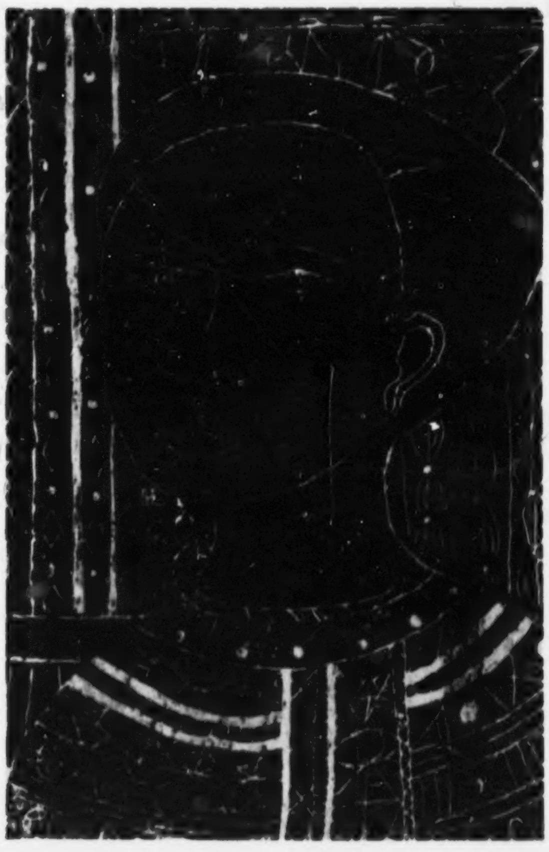
Wax crayon etching or crayon scratchboard is made by scratching through one or more layers of heavily applied crayon of contrasting colors to reveal colors below the surface.

Wax Crayon Etching



Age 13

Age 14



USES

Pictures Decorative design
Transparencies for Easter and Christmas

EQUIPMENT AND MATERIALS

Wax crayons
Poster paint or India ink, dark color or black
Paper: wrapping paper, white paper or cardboard
Tools: nails, orange sticks, twigs, nut picks, dull knives, pen points, hairpins, bobby pins, paper clips, chop sticks or other sticks
Brushes Soap

PROCEDURE

Cover entire surface of paper heavily with crayon of one color or more then one color adjacent to each other. Do not draw a realistic picture.

Apply a **contrasting** color of crayon over the first layer in the opposite direction.

Scratch a picture or decorative design with tool through the top layer to reveal sufficient "underneath color" to make picture interesting.

SUGGESTIONS

Varying widths of lines are produced by using one tool in several ways or by using different tools. Lines may be scratched in any direction and areas may be scratched out.

VARIATION OR DIFFERENT METHOD

Apply crayon to paper in one or more colors. Rub lightly over crayon with chalk dust, talcum powder or a bar of soap to make the paint stick. The soap also keeps the paint from chipping. Cover with a dark coat of poster paint or India ink. When dry, scratch through to reveal the colors underneath. Other ways to cover a waxy surface with paint is to dip the brush first in the paint and then stroke across a cake of soap or add detergent or liquid soap to paint.

VARIATION FOR GRADES 7-12

Draw an abstract or realistic picture on a slightly rough paper.

Color drawing with crayon, filling in areas quite solidly, but leaving areas blank that are to be solid black.

Cover the entire surface with black India ink or poster paint as previously described. Let it dry.

With knife scratch horizontally across the ink surface. The ink will flake off of the crayon part of sketch, exposing the picture. The paper not covered with crayon will be black.

Experimenting with scratched line will help to decide what is best.

RESOURCE

FILM

Grade Level	Title	Color	Time
1-12	Birds and Etching	Color	5 min.

WAX CRAYON ON FABRIC

Wax crayon may be used for decorative design on place mats, book covers, drapes, wall hangings, aprons, and costumes for plays and puppet shows.

MATERIALS

Wax crayons

Cloth: cotton, linen, silk or synthetic material, plain white or light color

PROCEDURE

Sketch your design with crayon in outline directly on cloth or on a thin paper such as tracing or onion skin.

If the design is on paper, lay "crayon side" face down on cloth and transfer by running a hot iron over the back of the paper.

Fill in the design in color where desired. Colors may be blended to produce different shades or tints.

Steam to set colors. Lay fabric, crayon side down, over a few thicknesses of manila wrapping paper. The place a wet cloth over the fabric and iron with a hot iron until the wet cloth is dry.

Wash with mild soap suds if soiled. When dry, inspect to see if there is any color lost, then touch up with crayon. Press again where crayon was added.

Always wash in lukewarm water and mild soap suds. Hot water will melt the wax and the design will disappear.

WAX CRAYON PAINTING

Painting with melted crayons resembles oil painting when completed. The colors do not run and they dry immediately. This is a good medium for pictures and wall hangings.

MATERIALS

- Turnpentine or paint thinner
- Wax crayons
- Paper, heavy
- Cardboard
- Back of oil cloth
- Old window shades
- Brushes

PROCEDURE

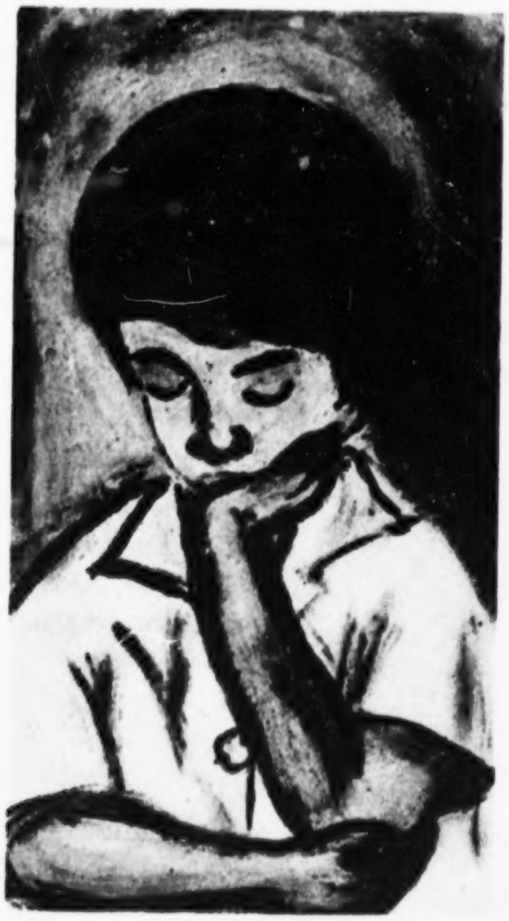
Dissolve broken crayons in turpentine, 1 part crayon to 2 parts turpentine, allowing several days for crayons to dissolve.

Apply paint with brush. Wipe brush often with a cloth saturated with turpentine because the melted crayon dries so quickly. Turpentine followed by soapy water will clean the brushes after painting and before using a new color.

If the painting is done on cloth for a wall hanging, press with a warm iron on the wrong side so that the paint will be absorbed into the fabric.

WAX CRAYON ENCAUSTIC PAINTING

Encaustic is a very old method of painting, using melted beeswax mixed with dry pigment color. It resembles an oil painting with thick impasto. Melted wax crayon may be used as an economical substitute.



Wax Crayon Encaustic—Age 14

EQUIPMENT AND MATERIALS

Pieces of wax crayon with paper removed
Old or cheap stiff bristle brushes, round and flat
Milk nickel sticks, tongue depressors, palette knives
Paint thinner or turpentine
Cardboard, canvas, plywood or masonite
White casein paint or shellac
Electric hot plates
Muffin tins
Newspaper
Pieces of metal or thick wood

PROCEDURE

It is better for only a few children at a time to work around the electric plates.

Spread newspapers to protect tables and floor and place electric plates on pieces of metal or thick wood.

Put broken pieces of wax crayon into muffin tins, one color in each section. Each section should be only half-full to allow for thinning.

Melt crayons in muffin tin over electric plate. **Disconnect stove if wax begins to bubble.**

Use high heat in melting crayons for thin or level application. Also add paint thinner or turpentine for further thinning or to slow down drying, but use sparingly.

Use low heat for thick or lumpy application.

Use high heat for scumbling. Scumbling is the application of a light, thinned color on top of a darker color.

When **warm,** scratching lines or scraping areas for texture may be done with any scratching tool.

Cardboard may be made nonabsorbent by painting it with white casein or shellac. Prepare cardboard, canvas, plywood or masonite ahead of time by applying the coat of white casein paint or shellac and letting it dry. Casein may be purchased at a paint store. A brush used with casein may be washed with water.

Use the old or cheap brushes, **one** for each color. Painting may also be done with sticks or palette knives. The wax coats the brush as it cools so a rag wet with thinner or turpentine should be used to keep the brush clean. Turpentine followed by soapy water will clean the brushes after using and before using a new color.

After painting is finished, the electric plate may be held upside down over painting to blend colors if that effect is desired. Heat until wax glistens.

STRING PAINTING

This type of line design and pattern is used in pictures and in decorative design for book covers and gift wrappings. It may be combined with dripping paint, stick printing and other processes.

FIVE METHODS

1. Materials

String or yarn
Wax crayon
Brushes
Chalk or poster paint
Paper: white, colored or painted

Procedure

Drop string on paper, crossing and recrossing, to form abstract shapes. Trace around string with crayon, chalk or pencil. Lift string from paper and color areas with wax crayon, chalk or paint.

2. Materials

String, yarn or rope
Poster paint
Brushes
Paper: white, colored or painted

Procedure

Dip string, yarn or rope in paint. Push into paint with a brush while holding the dry end. Drop it on paper to form design. Lift string and lay aside. Short pieces, loops or knots may also be dropped or dragged. The picture may have more than one color.

3. **Materials**

String, yarn or rope	Brushes
Paper: white, colored or painted	Poster paint

Procedure

Dip string, yarn or rope in paint. Drop on paper for design, leaving dry end extending over edge of paper. Place another paper over string and press with hand over entire surface. Hold second paper down and pull string out. Remove second paper and lay aside the string. For a bisymmetrical design place string on one side of a paper folded in center, press and pull string. Or all of saturated string may be dropped to form a design, top paper pressed and string lifted, leaving the design.

4. **Materials**

String, yarn or rope	Paper contrasting in color to string
Household cement	

Procedure

Place string, yarn or rope on paper forming people, animals or any other figures. Glue to paper with household cement or any other quick-setting glue.

5. **Materials**

String, yarn or rope
Poster paint containing liquid paste or wheat paste
Paper: white, colored or painted

Procedure

Dip string, yarn or rope in paint. Drop onto paper for abstract or realistic design and let it dry. It will adhere to paper.

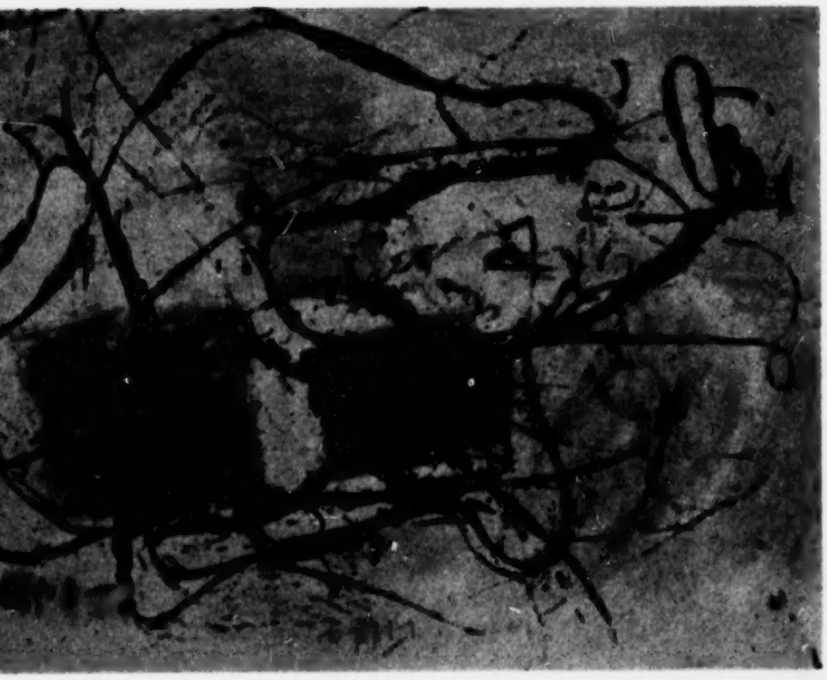
SUGGESTIONS

Use various weights of string, yarn or rope to make a more interesting design.

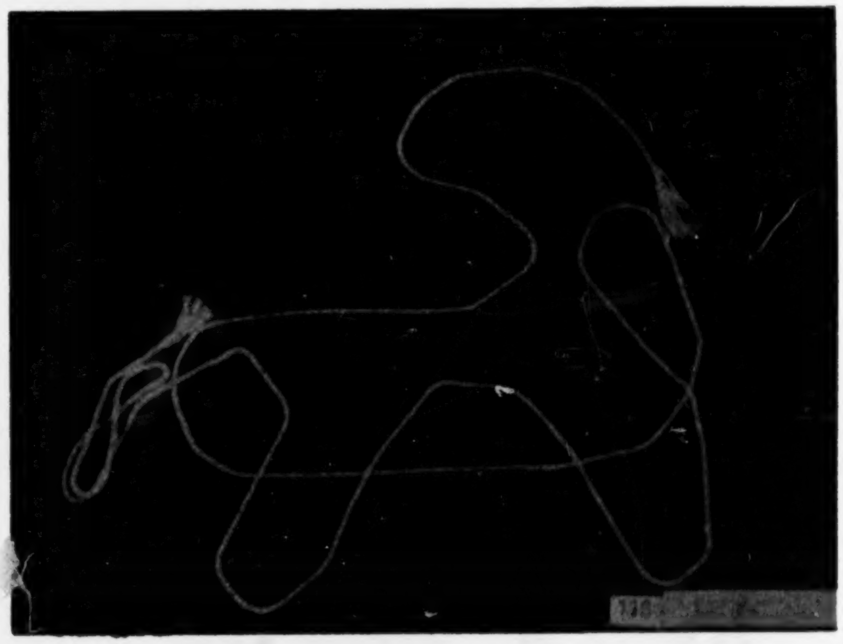
Drawing paper may be covered first with several colors of chalk blended, stippled with a sponge and paint or printed with a brayer and paint.
Experiment with smooth or rough paper and newspapers for background.

Combine with stick printing.

String dipped in paint may be used two or three times before being discarded.



String Painting—Age 10



String Design—Age 9

STENCILS AND STENCILING

A stencil is the reproduction on other surfaces of a design made by washing color over the cut areas in a **stencil plate** which is also called a stencil. Stencil designs may be made on paper, cardboard, poster board, sheet cork, glass, wood, fabric and for decoration on clay pieces. They are also used in silk screening.

USES

- Decorative design
- Greeting cards
- Book covers
- Gift wrappings
- Costumes for puppetry and plays
- Curtains
- Aprons
- Scarves
- Handkerchiefs
- Shirts
- Muumuus
- Table mats

EQUIPMENT AND MATERIALS

Material for stencil plate, any one of the following:

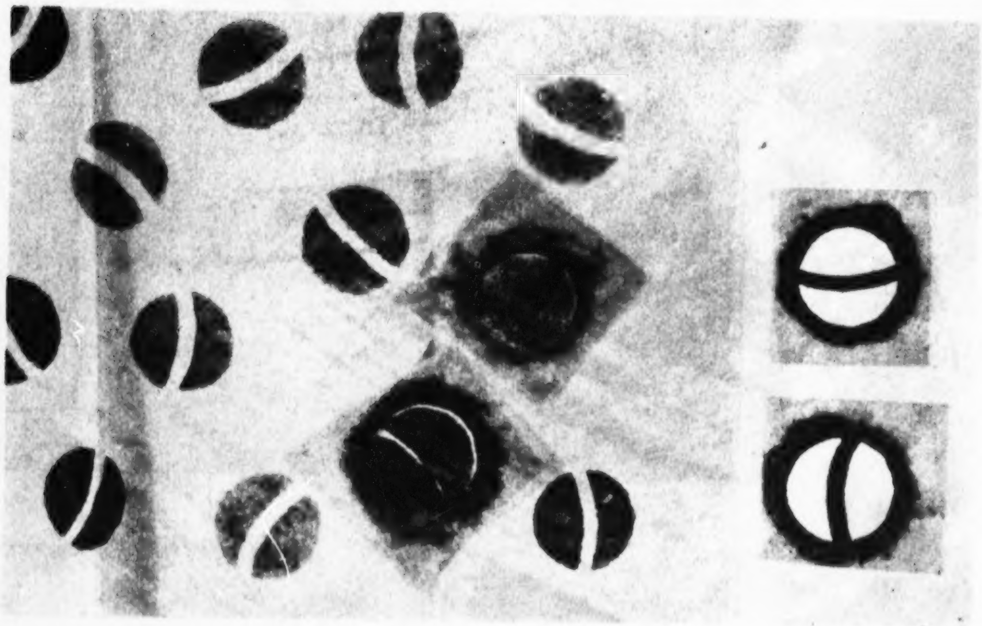
- Heavy paper
- Tag board
- Wax paper
- Stencil board
- Cardboard
- Shellac
- Wax crayons, poster paint, printer's ink or oil paint diluted with turpentine
- Textile paint or ink for fabrics that need to be washed
- Piece of wood
- Scissors
- Stencil knives or single-edged
- Stencil brush, sponge or stiff bristle brush
- Piece of glass, masonite or old dinner plate
- Paper or cloth on which to stencil

PROCEDURE FOR CUTTING A STENCIL

Young children can fold a piece of heavy paper, then tear or cut a pattern freehand from the center of the paper. This is called a negative stencil. Or the children can fold the paper, then tear or cut a pattern like they do for a paper doll. This is called a positive stencil.

Older pupils may wish to draw a design directly on the stencil plate material or transfer the design with carbon paper. Cut the design with scissors, stencil knife or razor blade. If using a knife, protect table with the piece of wood. If the stencil is to be used for many reproductions, it should be coated with shellac on both sides to make it waterproof. The stencil must have a good clean-cut edge, not ragged. The piece cut out is the positive stencil and the remainder is the negative stencil. See line drawings.

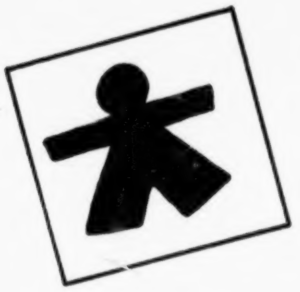
If the design has more than one color, cut a stencil for each color.



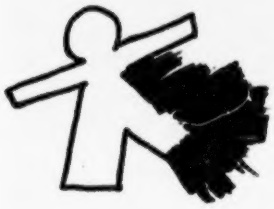
Four Stencils for Four Colors Age—12

PROCEDURE FOR STENCILING

Both the positive and negative stencils may be used on paper or cloth. The negative stencil is placed on a sheet of paper or cloth and the area is filled in with crayon. Hold the positive stencil down and stroke over the edge of it with crayon all the way around.



Negative stencil



Positive stencil

The stencil may be repeated many ways for interesting effects: overlapping, upside down, horizontal, vertical or diagonal.

When using paint or printer's ink, first spread it evenly on glass, masonite or dinner plate. With stencil brush or sponge pick up paint and apply to stencil. When applying the paint to a negative stencil, use a stippling technique. The brush should be almost dry and held perpendicular to paper or cloth so no paint will go under the stencil.

There should be a dry brush technique used on the positive stencil. Apply the paint in short swift strokes, lifting the brush at the end of each stroke.

SETTING THE COLOR ON FABRICS

Oil paints, printer's ink or textile paint or wax crayon: Refer to setting color in section Wax Crayon on Fabric.

Poster paint cannot be washed.

To set the color before washing, soak the fabric in salt solution for several hours, three teaspoons salt to one quart of water. Or use two tablespoons of vinegar to a quart of water.

RESOURCES

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- **A.D. — Studio of the Art Director**

BOOKS

Elementary and Secondary

Cox, Doris and Weisman, Barbara Warren. *Creative Hands.* New York: John Wiley and Sons, Inc., c1945. Stenciling, pages 182-192. L.H., A.A.

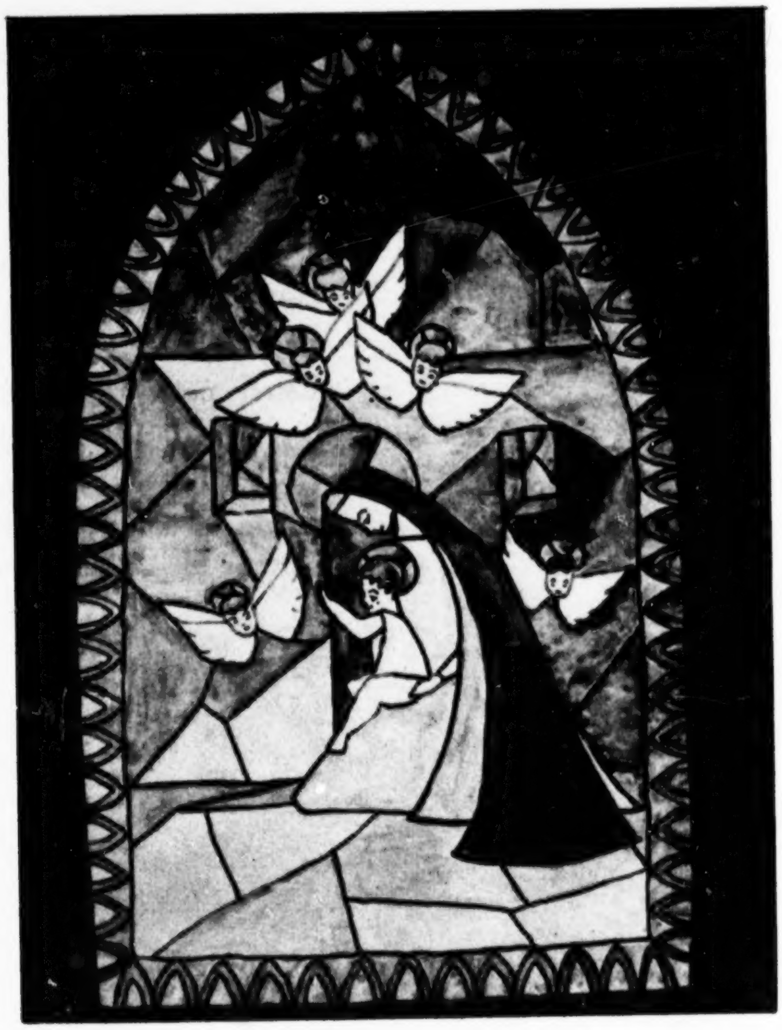
Stephenson, Jessie Bane. *From Old Stencils to Silk Screening.* New York: Charles Scribner's Sons, c1953. Stenciling, pages 69-152. L.H.

FILMSTRIP

Grade Level	Title	Color	Frames
4-12	Stenciling	Color	36 frames

TRANSPARENCIES

A transparency is a drawing or design made on paper to look like stained glass. The light will pass through transparent paper which has been decorated with wax crayon or paint. Transparencies may be large or small and taped to windows for Easter and Christmas decoration.



Transparency—Age 12

EQUIPMENT AND MATERIALS

Wax crayons	Knives or tongue depressors
Water color	Poster paint

Paper: tracing, black construction, wrapping or tagboard.

FIVE METHODS

1. Draw design. Cut out sections and color "bridges" between with black crayon or paint. Paste colored cellophane on back of paper.
2. Water color on tracing paper may be used for small designs.
3. Wrapping paper may be used for the painting. Draw picture or design with chalk. Then divide into areas as in a stained glass window. Paint with poster paint thinned with a little water. Outline areas with black paint or black wax crayon to simulate the black lead of a stained glass window. When dry, oil the other side with linseed oil diluted with turpentine.

4. Wax crayon etching may also be used for transparencies placed against a window. Paint over wax crayon with dark blue or purple poster paint. Refer to section on Wax Crayon Etching.

5. Color design heavily on tracing paper with wax crayon. Then scrape crayon off with knife or tongue depressor. Outline areas with black crayon..

STAINED GLASS WINDOWS

A stained glass window is made by encasing sections of colored glass in lead canes or calns. Stained glass windows have been used for centuries as a part of the architecture of churches and buildings.

The function of the building determines the design and colors to be used. Somewhat subdued colors are better for churches. It is difficult to look at windows with too raw or bright colors.

The process of making a stained glass window takes a long time and requires great care in cutting the glass and painting it. It is first designed and then an outline drawing is made called a cartoon. After cutting the pieces of colored glass, they are placed in the lead canes and adhered to a window with beeswax. The lead canes are shaped like a tired H and the glass fits in on each side. Then the window is "knocked down", beeswax removed and the pieces of glass are painted with iron oxide for the dark lines in the design. Iron oxide turns from gray to black when fired. Now the glass is fired in a kiln, then removed for a second painting to add tones of gray with iron oxide diluted with water. It is fired a second time. In some places the blacks will need retouching with iron oxide due to a chemical reaction. This retouching is necessary because the black lines are very important in reducing the intensity of colors and are a definite part of the design. Then the glass is fired for the third time. Now the pieces of painted glass are encased in the lead canes. Great care must be taken to have this accurate at the angles. They are soldered with a drop of solder to be permanent and then cemented. Now they may be scrubbed clean and installed in the building.

STAINED GLASS WINDOWS IN HAWAII

Oahu

St. Andrew's Cathedral, Honolulu
Older ones made in Belgium.
Park Chapel—by the Connick school in America.
Modern window—by John Wallis in America.

Honolulu Academy of Arts—14th century stained glass.

Honolulu Academy of Arts, St. Christopher—by Erica Karawina.

Waioli Children's Chapel, Waioli Tea Room, The Salvation Army, Manoa Valley—by Erica Karawina and dedicated by her to all island children.

Palolo Community Methodist Church, A cross designed with the children in mind—by Erica Karawina.

LETTERING

Practice lettering when the need arises for designing greeting cards, booklets, posters, maps and bulletin boards. The ability to letter is useful in innumerable situations in everyday life.

EQUIPMENT AND MATERIALS

Media
- Wax Crayons cut to a bevel or paper removed on blunt end
- Pencils
- Poster paint
- Yarn, colored
- India ink, black and colors

Paper
- Primary lined paper
- Bristol paper or board
- Construction, colored
- Newsprint
- Cardboard
- Tagboard

Pens Pens, lettering Pens, felt

Brushes, several sizes and flat Brushes, lettering

Scissors Rulers

LETTERS

Freehand, simple and easy to read.

Manuscript alphabet and numbers.

SUGGESTIONS

Practice on lined paper first with words correctly spelled.

Keep paper for lettering parallel to desk edge, not at a slant as in writing.

Letters can be tall or short, thin or fat.

Words may be stretched or shrunk to fit a certain space:

Narrow letters for a short space.

Wide letters for a long space.

O and Q may be a perfect circle in a word with narrower letters.

Letters must be thick or wide enough for easy reading.

Keep even pressure of crayon, brush, felt pen or lettering pen.

Keep letters in vertical position:

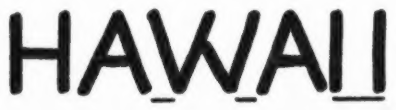
Straight lines **straight**.

Round lines **round**.

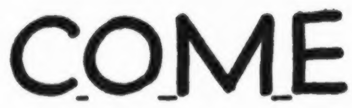
Space letters in a word to give a feeling of equal areas between each letter. Areas are open light areas between letters:

Judge with the eye. Good spacing is **not** equal distance between letters.

Leave more space between straight line "closed letters," less space between "open or half-open letters" as in



and



Some letters overlap as in TAT

Cross H, E, F, X slightly above the center.

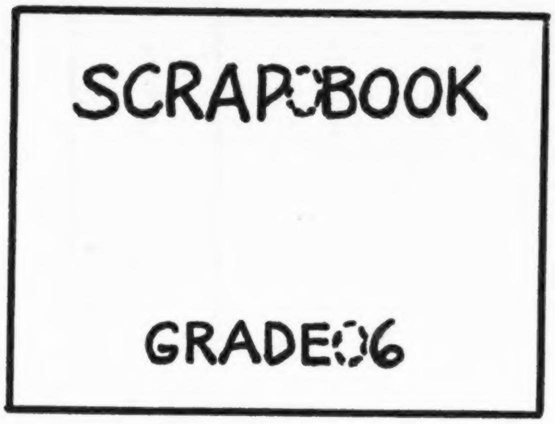
Cross A, G slightly below the center.

Join lines of B, K slightly above the center.

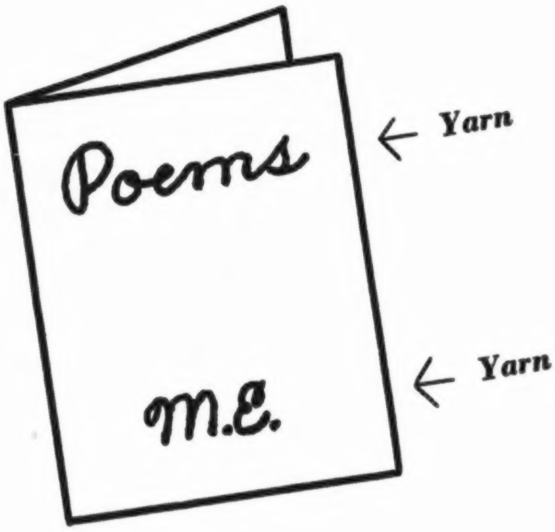
Join lines of R, Y, P slightly below the center.

Make tops of B, E, K, S, X, Z narrower than bottom.

Leave space of a capital O between words.



Yarn may be used for large script and fastened to paper with transparent tube glue on book covers and posters.



With experience liberties may be taken in creating letters, but the style must be consistent throughout the letters on a page or poster. After freehand lettering is mastered, rulers for straight line letters and compasses for curves may be used for large letters.

Capital letters cut freely, no pencil first, from blocks of uniform height:

Allow freedom in creating size and width.

Cut a strip of paper, edges parallel, of height desired for letters.

Cut strip into rectangles of equal width.

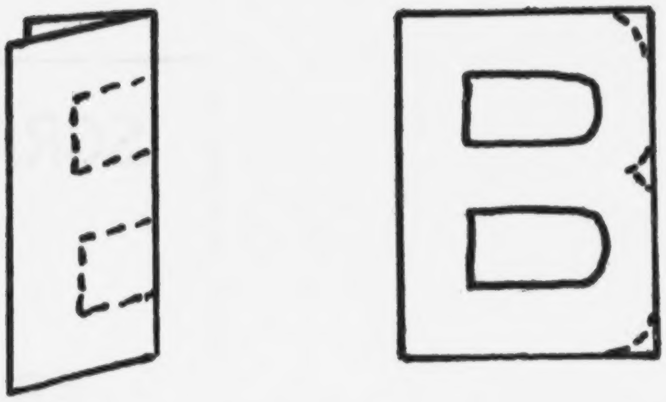
Cut 2 rectangles slightly wider than a square for M and W

Take care that nothing is cut from top or bottom of rectangle so height of letters will remain uniform.

Some letters may be cut by folding the rectangles.

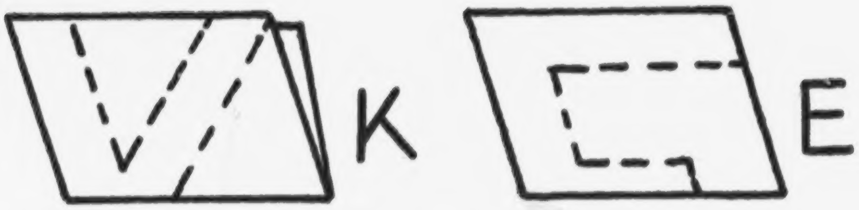
Cut the letter I (l) the desired width and use for checking width of other letters. Several letters of a certain type, for example, all the A's can be cut at one time.

Cut letters as follows:
All letters the same width
as the letter "I".



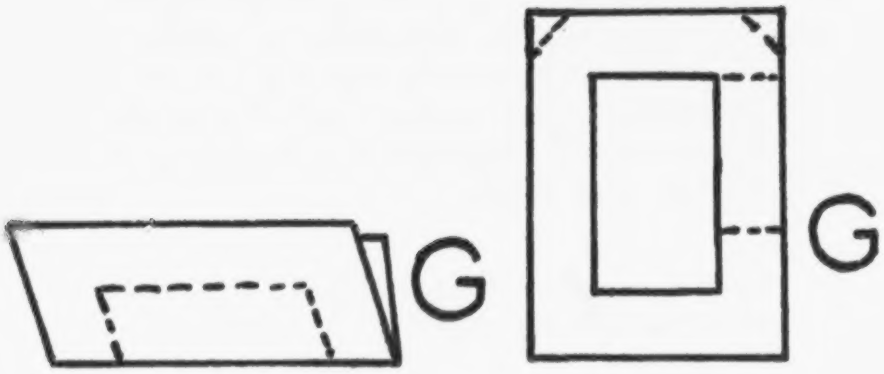
ABMPRTUVWY

Fold vertically



CEFK

Fold horizontally



DGHOQX

Fold either way

POSTERS

Poster design is used for correlation with other areas of school and community life. Show examples of good posters or draw a rough sketch on the blackboard showing a layout. Call attention to the difference between a poster and a picture.

EQUIPMENT AND MATERIALS

Same as listed for lettering
In addition, materials for collage

GOOD POSTERS:

Use a single idea forcefully.
Are easy to read from a distance.
Attract with bright color, contrast of colors or contrast of dark and light values.
Have background colors subordinate to other colors.
Have enough contrast between lettering and background for easy reading.
Are simple, appealing and not crowded with too much information.
Have space around edges. Letters should not reach edges.

PROCEDURE

Discuss slogans to be used. Write on board using guide lines and good spacing.

Practice on strips of newsprint with pencils. Have letters reach to top and bottom of strip. Correct spelling and spacing with a second strip of poster paper rather than erasing.

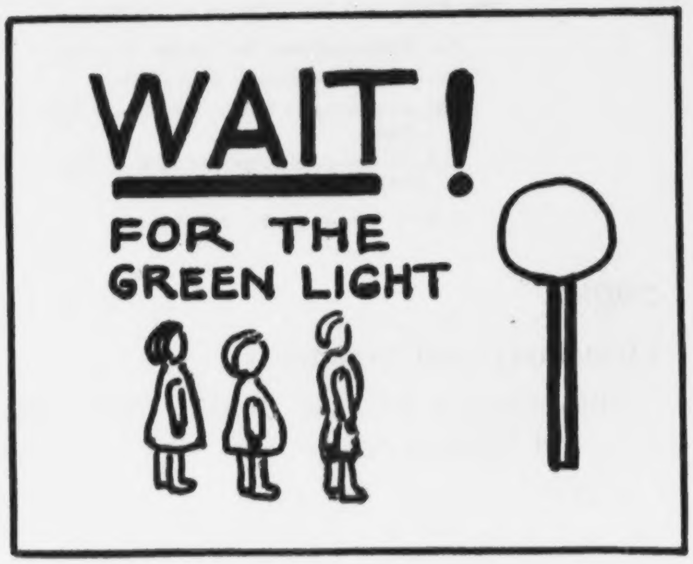
Use words in horizontal position. Words placed vertically or on a slant are hard to read. However, a slightly slanting word may be used to attract attention.

Form blocks of words. Include "a, the, for, and, of," in a line with other words as in

VITAMINS FOR

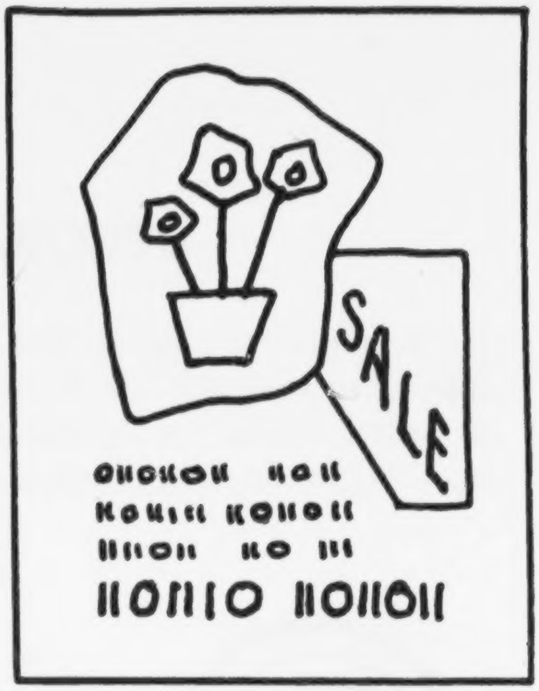
Young children may staple or paste strip to poster. Use only simple vertical **capital** letters. **Make letters thick enough.**

Older children may practice on strips first, using capitals and/or small letters (upper and lower case). Then draw guide lines lightly on poster. Letter freehand or trace from pracitice paper. Use soft pencil on back of tracing paper instead of carbon paper when transferring to poster background paper or posterboard.



Layout

Draw, paint, tear or cut paper or use collage teachnique for the illustration, leaving on all sides and space for for lettering.



An effective use of colored paper may be achieved by tearing or cutting large geometric or free forms (shapes) in the following ways:

Arrange shapes on background separately or overlapping.
Staple or paste shapes to background.
Place illustration on largest piece of paper and lettering on the other pieces.
Or place illustration on a colored piece of paper and lettering on the neutral background.

RESOURCES

For Lettering and Posters

The Code used for books is as follows:

- *** — Recommended for school libraries**
- **# — Listed previously in Resources**
- **L.H. — Library of Hawaii, Music and Art Room**
- **A.A. — Honolulu Academy of Arts, Educational Department**
- **A.D. — Studio of the Art Director**

BOOKS

Elementary and Secondary

*Biegeleisen, J. I. *ABC of Lettering.* New York: Harper and Brothers, c1944. L.H., A.D.

Biegeleison, J. I. *Poster Design.* New York: Greenberg: Publisher, c1945. L.H.

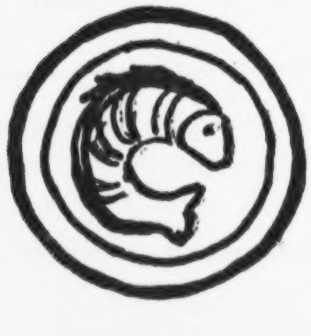
*Cataldo, John W. *Lettering.* Worcester, Massachusetts: Davis Publishing Company, Inc., c1958. A.D.

#Holmes, Kenneth and Collinson, Hugh. *Child Art Grows Up.* New York: Studio Crowell, Inc., c1952. Pages 66-75. A.D.

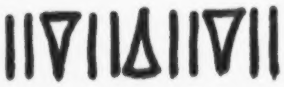
*Tannahill, Sallie B. *P's and Q's of Lettering.* New York: Doubleday, Doran and Company, Inc., c1956. L.H., A.D.

DECORATIVE DESIGN OR PATTERN

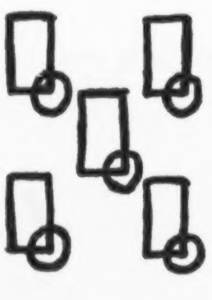
A pattern is a decorative design composed of units of lines and other forms called motifs. It appears in everyday life in individual pieces of design for decoration as in a design in the center of a plate and in the repetition of the same or similar lines or units in borders and all-over or surface designs. Pattern is valuable to the understanding of art of all ages and in studying nature.



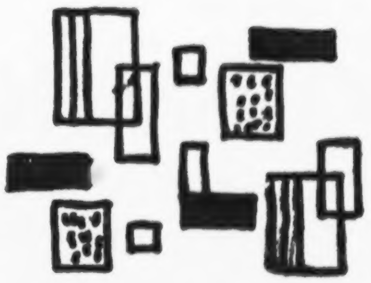
Individual



Border



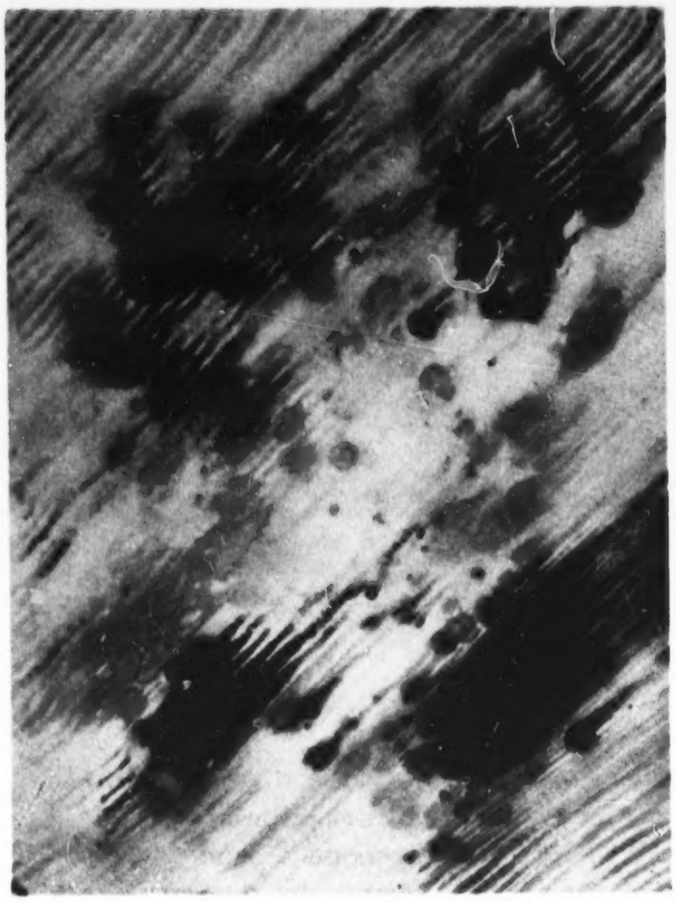
All-over pattern
Regular repeat



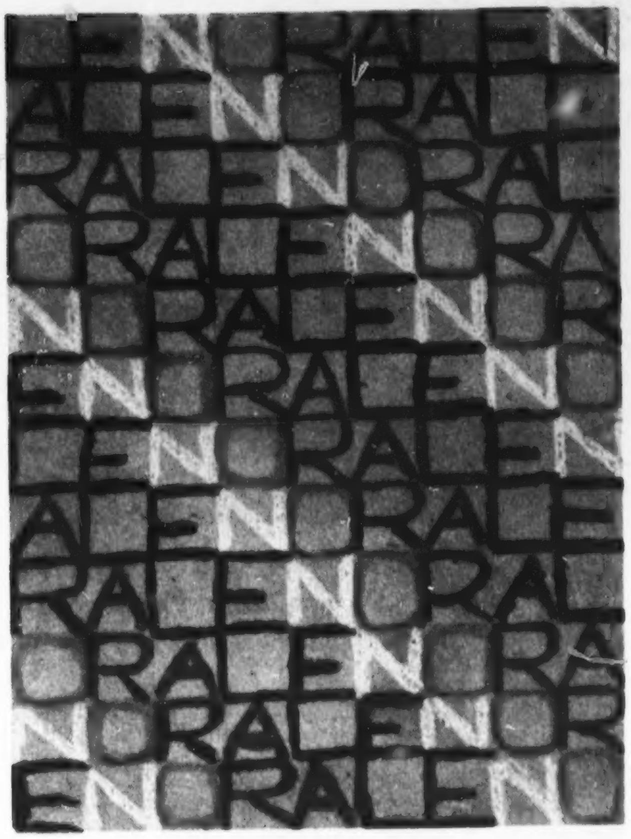
All-over pattern
Irregular repeat

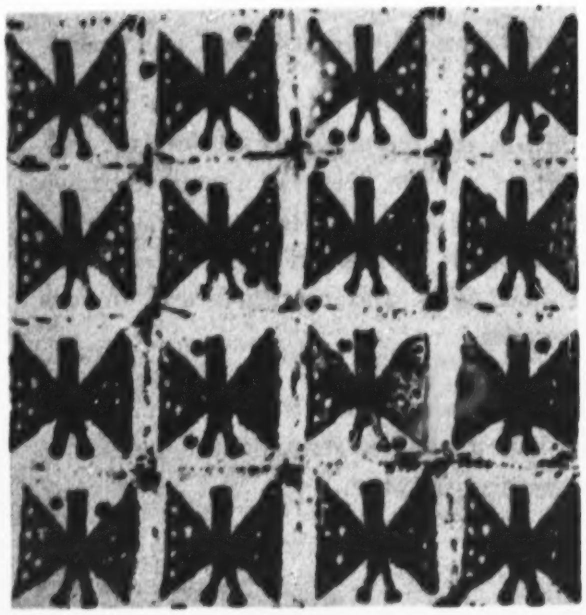
Repetition is the essence of pattern. It gives movement or rhythm and directs the eye over the surface. Repetition may occur as a regular repeat or as a spontaneous irregular repeat of motifs.

Scrub Brush and Drip on Wet

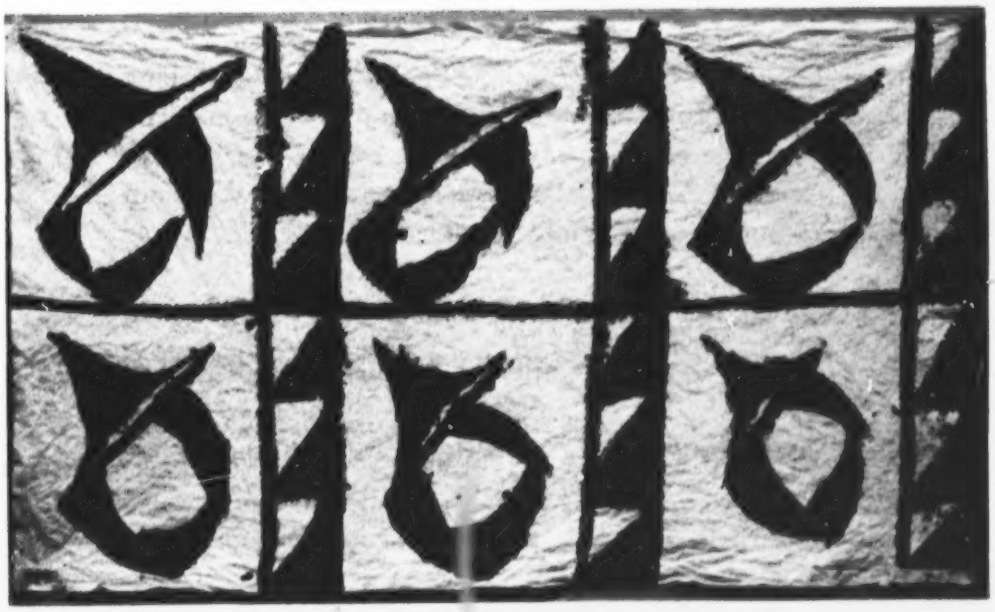


Letters for Design—Age 12

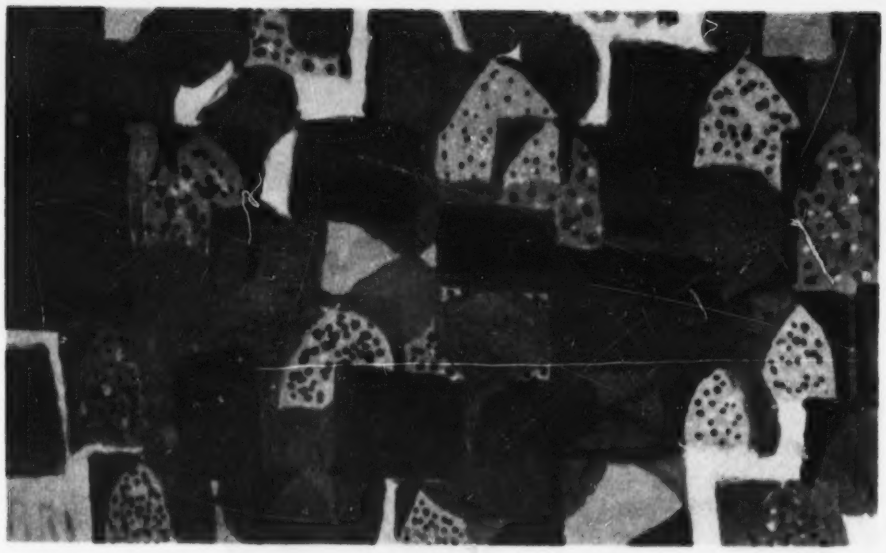




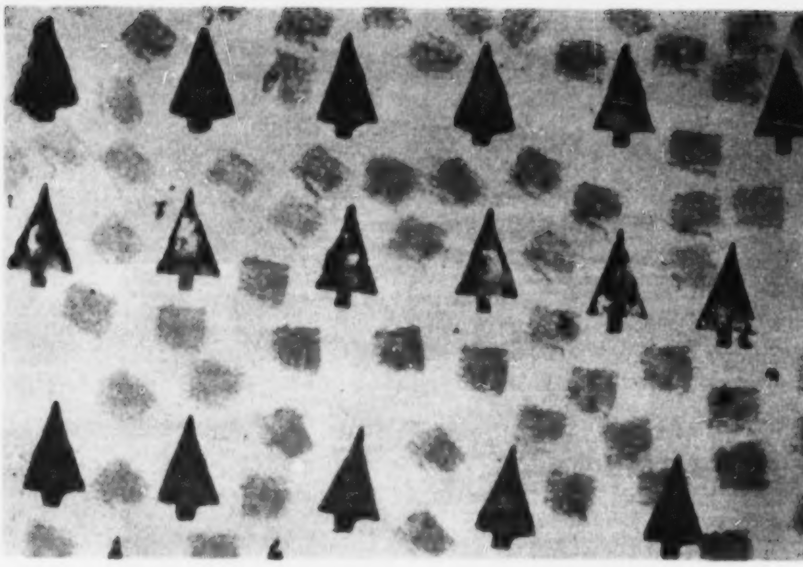
Silk Screen Print—Age 12



Tapa Design on Wrapping Paper—Age 9



Design with Paint—Age 12



Innertube Block Print and Sponge—Age

DESIGN

The beauty of a design for decoration depends not so much on the arangement of its parts or elements, but on the right use of them as a part of a harmonious and rhythmic scheme as a whole. When this is accomplished, there is enrichment of the things in everyday life as in architecture, interior furnishings, clothing, industrial products and handmade crafts.

The use of pattern (design) on crafts should be done with careful consideration for the quality of the material used and the function of the object made. The amount or proportion and relationships of pattern to the plain spaces must be carefully considered.

STIMULATION AND MOTIVATION

Showing of good examples of pattern in paintings and crafts.

Discovering design in nature and on man-made things.

Pattern in nature is endless and may be found in:
- Foam of a receding wave at the beach.
- Repetition and movement of waves.
- A bouquet of flowers or flowers in a garden.
- Curved lines girdling the bark of the coconut tree.
- Radiation of forms in coral and in the sea urchin.
- Veins of leaves and leaves of several sections.
- Sections of the caterpillar and scales on a fish.
- Spots on a giraffe and stripes on a zebra.
- Curls of hair and fingers on a hand.
- Sugar cane tassels against the sky.
- Rippling of water by a stone dropped in it.
- Stars and clouds in the sky.
- Planets, sun and moon in the universe.

Pattern is spontaneous in the drawings and paintings of young children.

Pattern is found in the repetition of the divisions of the sidewalk, boards of a fence, bricks of a wall, windows of a building, shingles on a roof, lettering on packaged goods and in advertising, a printed page, a sheet of music with lines and notes and on shirts and dresses right in the classroom.

Pattern is unintentional as found in the arrangement of things in rows like the paper strips in the pineapple field or the stacking of lumber.

USES

- Paintings
- Gift wrappings
- Fabrics
- Clay pottery and sculpture
- Posters
- Book covers
- Toys
- Endsheets of books
- Jewelry
- Stage design
- Costumes

METHODS—Described elsewhere in the guide

For book covers, endsheets and gift wrappings on paper

Design to music with free brush painting.

Color directly on paper with wax crayon or poster paint. Add gold or silver for Christmas papers. Paint or print on dry or wet paper for gift wrappings.

Simulate Hawaiian tapa cloth: Dampen and crumple wrapping paper until flexible and soft, paint all over or dye for color, then design tapa pattern with wax crayon or poster paint. Or use wax crayon resist method.

Paint with sponge, string, yarn or feathers.

Use finger painting.

Design directly on paper with wide lettering pens and colored inks.

Marbleize paper: Thin oil paint with turpentine. Swish water in a large flat pan or sink so it moves. Drop paint on surface of water. Lay paper on top of paint and water. Remove quickly and dry on newspapers.

Rub crayon over rough and textured surfaces like corrugated paper, heavy wire mesh or rough wood.

Drip paint for texture.

Use wax crayon resist or wax crayon etching.

Tear or cut paper designs and paste.

Stencil with wax crayon or poster paint, water or oil base printer's ink.

Print, using poster paint, water or oil base printer's ink:

Stick, leaf and vegetable printing.

Printing with brayer.

Cardboard tubes and tin can printing: Glue string, yarn, rope or forms cut from heavy cloth or flexible cardboard onto cardboard tube or can, roll over poster paint or printer's ink and print by rolling on paper.

Plasticine, plaster, innertube and linoleum block printing.

Silk screening.

Use also combinations of methods.

Using cloth for book covers, draperies, tote bags, clothing and costumes for puppetry or plays.

Color directly on cloth with wax crayon or textile inks.

Stencil with wax crayon or textile inks.

Print using textile inks:

Stick, vegetable, plasticine, innertube and linoleum block printing and silk screening.

Batik with dyes.

Decorate costumes with poster paint if for temporary use and if they do not need washing.

For Crafts

Scratch design or decorate clay with slip or glaze.

Embroider design for creative stitchery.

Carve in wood or other materials.

Paint designs on papier-mâché masks and figures.

Design with yarns and native materials in weaving.

Paint toys with household paint or enamel.

Use tesserae, pebbles, shells in mosaics.

Decorate by scoring, cutting and piercing in paper craft.

Design lines and forms, using materials in collage, mobiles, stabiles and other constructions .

Design on copper and silver with enamels.

Design on silver.

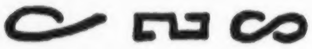
DEVELOPING MOTIFS

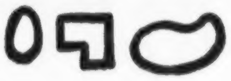
Line, form, color, value and texture are used in developing motifs.

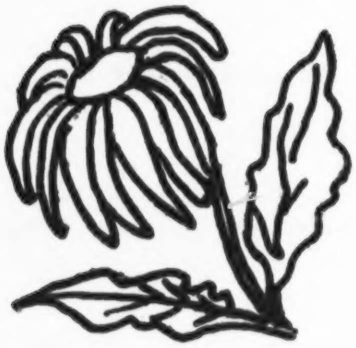
UNITS OR MOTIFS

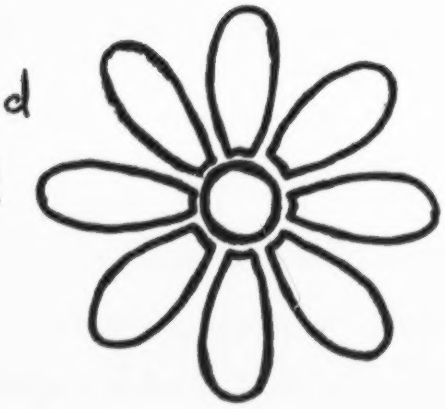
Lines, straight and curved.

Geometric forms: circle, half-circle, quarter-circle, square, rectangle, triangle, parallelogram.

Open  forms;

closed  forms.





Forms from nature, simplified or stylized, including all plant and animal life:

Realistic drawings do not lend themselves well to design.

Young children use symbols naturally. Older students need help in simplifying forms from nature for design.

Numerals, letters of the alphabet and monograms in a repeat.

Hawaiian kahilis, helmets, tapa, Tiki (god), feather capes, petroglyphs (people and animals) used for design.

Japanese parasols, sandals, Boys' Day fish, Girls' Day dolls.

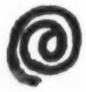
Chinese dragon, chopsticks, lanterns.

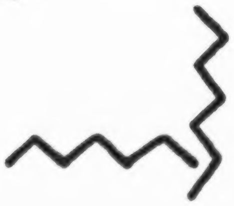
Develop designs from doodling and scribbling when students find difficulty in creating design. They find images in the doodle or scribble as are found in cloud formations. Outline the image for a pattern.

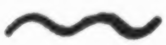
Work freely and spontaneously with crayon, brush, sponge and pens. Do not draw first with pencil except when necessary as in block printing and silk screening.

Let very young children develop in their own spontaneous way. They usually begin with an irregular repeat which is natural for them. Later on they will master the repeat process for all-over pattern or borders.

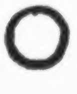
Introduce at upper elementary and secondary levels motifs used by primitive peoples. These motifs came from nature: the snail, lightning, waves or fire, mountains, sun, horizon, tree trunk and rain.

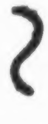
Spiral  snail

Zigzag  mountains or lightning

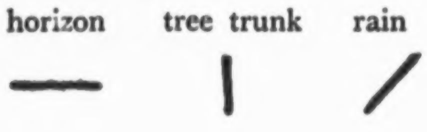
Wavy line  wave

Scallop rainbow

Circle  sun

Two half-circles  fire

Lines: horizontal, vertical and oblique

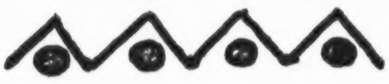


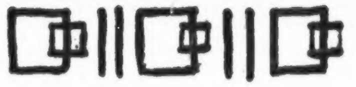
Show examples of Hawaiian tapa design. Resource is Bishop Museum.

COMBINATIONS OF LINES, FORMS AND COLORS FOR VARIATION

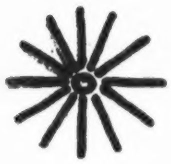
Combine motifs: geometric, abstract or stylized from nature.

Use two or three colors. Sometimes overlap one over another.

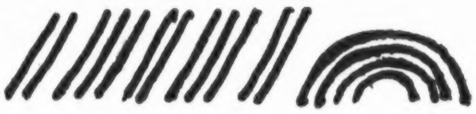




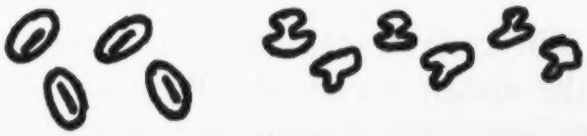
Radiation from a center



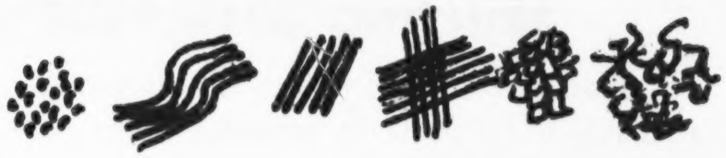
Rows of the same kind of lines



Reversing the design every other time

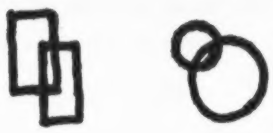


Texture by close repeat and stippling

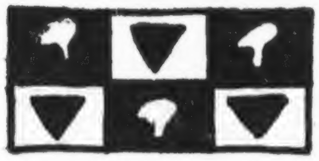


Thin and thick lines

Overlapping of motifs



Counterchange



EVALUATION

Is the design needed to enhance the product?
Is it suitable for the material used?
Are the motifs close enough to give a feeling of continuity thereby achieving unity?

Is there contrast in dark and light?

If color is used, are the colors suitable for the purpose of the project?

Is there proper proportion of decoration to form?

RESOURCES

The Code used for books is as follows:

*** — Recommended for school libraries**
# — Listed previously in Resources
L.H. — Library of Hawaii, Music and Art Room
A.A. — Honolulu Academy of Arts, Educational Department
A.D. — Studio of the Art Director

BOOKS

Elementary and Secondary

*Best-Maugard, Adolfo. *A Method for Creative Design.* New York: Alfred A. Knopf, Inc., c 1927. A very simple approach for the trained or untrained teacher. L.H., A.A., A.D.

#Downer, Marion. *Discovering Design.* New York: Lothrop, Lee and Shepard Company, c1947. L.H., A.D.

#Holmes, Kenneth and Collinson, Hugh. *Child Art Grows Up.* New York: Studio Crowell, Inc., c1952. Pages 20-37. A.D.

Robertson, Seonaid M. *Creative Crafts in Education.* 8 Ellery Street, Cambridge 38, Massachusetts: Robert Bently, Inc., c1953. Pages 180-201. A.A., A.D.

Secondary

#*Art for the High School. Growing With Art Series.* New York: L. W. Singer Company, Inc., c1947. Pages 6-7. A.A., A.D.

PRINTING PROCESSES

The craft of making prints by applying paint or ink to a surface and using pressure to transfer the design is very old. Printing from a carved piece of wood was the first method. The early Hawaiians made designs on tapa with the pattern carved on narrow pieces of wood.

This section describes a number of ways to print, many of which may be used in all grade levels.

PRINTING WITH VEGETABLE, STICK OR DISCARDED OBJECTS

One of the simplest and easiest methods of printing makes use of spools, pieces of wood, sponges or discarded objects by pressing them into pads of newspaper, paper toweling, absorbent cloth or cotton pads called Coets which have been saturated with paint. This is similar to using a rubber stamp pad.

VALUES

It is a quick and simple introduction to surface and border design for printing on book covers, end sheets in books, gift wrappings, program covers, puppet costumes and for texture in the background spaces of paintings.

EQUIPMENT AND MATERIALS

Printing Tools

Spools, pieces of wood, dowels, corks, sponges, lids of pillboxes, small cardboard boxes, lollipop sticks or any object to which the paint will adhere to make an imprint.

Potatoes, carrots, string beans, ends of green plant stalks as papaya stem, seeds, leaves, bamboo, lotus root

Containers to Hold Pads

Lids, tops of coffee cans, coasters, plates, tinfoil pans

Paints and Inks

Poster paint the consistency of coffee cream, powdered tempera mixed with a small amount of paste and water or printer's ink

Textile ink for printing on cloth

Printing Papers

Paper: white, colored or painted
Newsprint, plain or colored
Wrapping manila
Newspaper, advertising page
Tissue, white or colored
Construction, colored
Tonal, colored
Cloth for costumes for plays or puppet shows

PROCEDURE

Cover worktables with newspapers.

Spread paint on pads so it is absorbed. Add more paint when necessary.

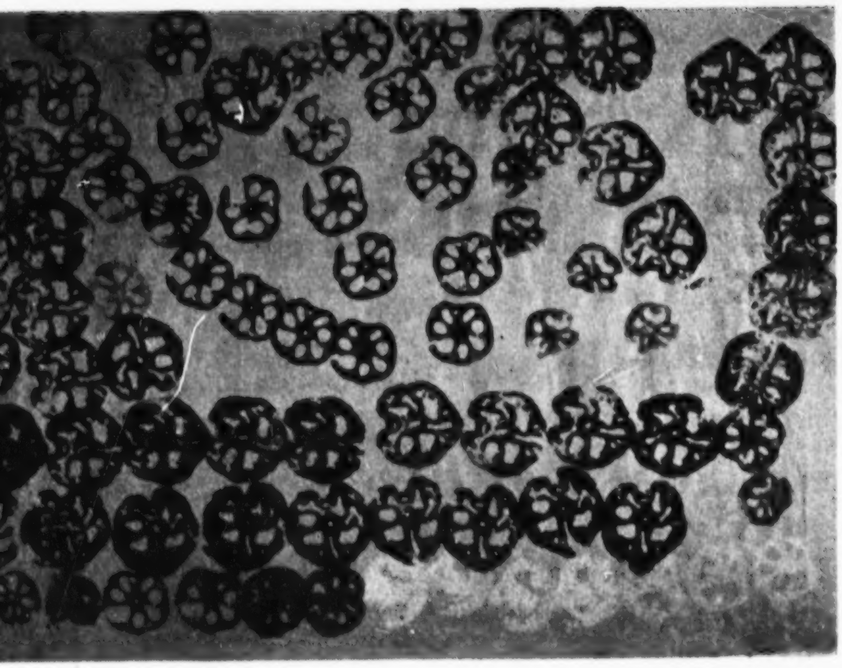
Press printing object onto paint pad and then on the paper. Repeat each time it is printed. When finished, wash printing object in water and place on table to dry. The paint may also be applied by brushing it on the tool.

Thick slices of vegetables may be used like sticks. A simple design can be cut on the end of the slice of a carrot or potato by notching or incising. Older children may cut a design in relief on carrots and potatoes.

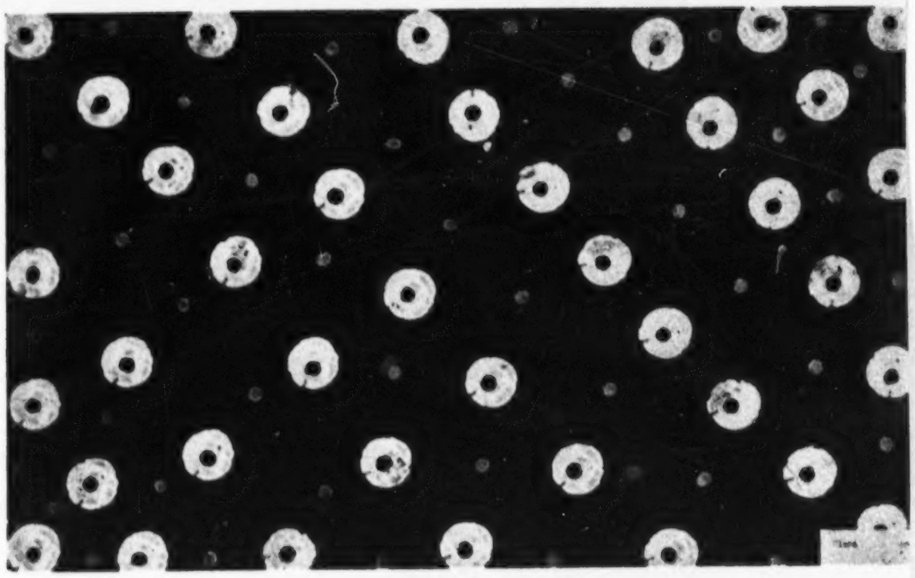
SUGGESTIONS

Paper in all printing processes may be used dry or damp if thick enough not to tear.

At first it is simplest if the younger children choose only two or three colors with the same number of sticks, one for each color. Otherwise they become confused by too great choice and the colors become "muddied" and mixed up. The results will be "hit or miss" at first, but gradually the children develop a sense of rhythm and pattern by repeating colors and shapes in a definite sequence. However, spontaneous "hit or miss" pattern may be very interesting.



Lotus Root Print—Age 5



Stick Print—Age 11

Any handprinted design may have irregularities which add to its beauty. **Do not** paint out irregularities with brush and paint.

Any of the printing tools may be combined with inner tube or brayer printing, brush and string painting. Printing objects may be combined by printing one over part of another or adjacent to each other to form patterns. This encourages experimentation. Refer to section Decorative Design or Pattern.

RESOURCES

The Code used for books is as follows:

- *** — Recommended for school libraries**
- **# — Listed previously in Resources**
- **L.H. — Library of Hawaii, Music and Art Room**
- **A.A. — Honolulu Academy of Arts, Educational Department**
- **A.D. — Studio of the Art Director**

BOOK

Elementary and Secondary

#Robertson, Seonaid M. *Creative Crafts in Education.* Cambridge, Massachusetts: Robert Bentley, Inc., c1953. Vegetable printing on paper and fabrics, pages 187-198. A.A., A.D.

FILMSTRIP

Grade Level	Title	Color	Frames
3-6	Potato Printing	Color	39 frames

PRINTING WITH PLASTICINE

Plasticine is so easy to carve that very young children can block print in this way.

EQUIPMENT AND MATERIALS

Plasticine
Poster paint with a little liquid paste or soap added or oil base printer's ink for paper
Textile ink for cloth
Paper: newsprint plain or colored, drawing paper, rice paper, colored construction or tonal
Cloth for fabric printing
Brush or brayer for applying paint or ink
Spoons Knives Milk-nickel sticks

PROCEDURE

Gouge or incise designs on a slab of plasticine, using spoons, milk nickel sticks or knives.

Paint with poster paint or ink with a brayer. Use printer's ink on paper, textile ink on cloth.

Turn upside down on paper or cloth.
Press with hand.

Plasticine may be cleaned, squashed up and made into a block which can be used for another design.

Poster paint is removed with water and printer's ink with paint thinner or turpentine.

PRINTING WITH BRAYER

Brayer prints can be used for underpainting in pictures, gift wrapping paper or book covers. Window curtains and place mats may be printed with brayers by using textile inks.

EQUIPMENT AND MATERIALS

Brayers Piece of glass or masonite
Poster paints or inks and paper as for plasticine printing
Also water soluble printer's ink
Substitutes for brayer:
  Toy rolling pin, piece of dowel or a piece of rubber hose with dowel inserted for handles

PROCEDURE

Spread paint evenly with brayer on glass or on a thick pad of newspaper. Roll brayer across printing paper in one or more directions. Use as many colors as desired separately or superimposed. Clean brayer before using new color. Remember that one color over another will change the color.

SUGGESTIONS

For different textures slip coarse sandpaper or wire screen or material of any rough textural surface under paper to be printed.

A piece of heavy string or yarn may be wound around the surface of the brayer. Fasten the two ends together with a little household cement, being careful that the cement does not get on the brayer. Run the brayer over the paint and then on the paper. The result is a line design.

RESOURCE

FILM

Grade Level	Title	Color	Time
4-12	Printing with Brayer	Color	10 min.

PRINTING WITH INNER TUBE

Inner tube prints may be used for decorative papers, book covers, end sheets and for designs on fabrics.

EQUIPMENT AND MATERIALS

Materials are the same as for brayer printing. Add wood or cardboard.

PROCEDURE

Cut strips or shapes from pieces of rubber inner tubes. Glue these to blocks of wood or stiff cardboard. If more than one piece of inner tube is to be glued to the block, spaces of varying widths may be left between the pieces. A difference in texture may be obtained by using both inner and outer surfaces of the tube. Small openings can also be cut inside a piece of tube to give texture.

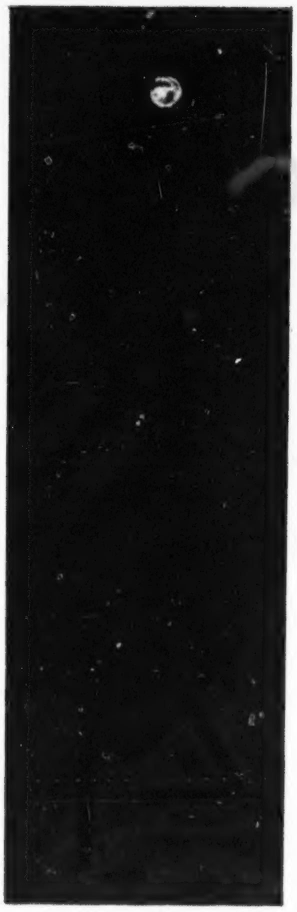
When dry, paint the inner tube design with poster paint or ink with brayer and press onto the paper. Repeat each time it is printed.

EXPERIMENTAL PRINTING

There is an awakening in the printing art: experimenting with old processes, but using them in different ways; combining them and using more color in prints. Scrap materials such as torn or cut paper forms, string, sand, cardboard and textured materials like corrugated cardboard can be used to make interesting realistic or abstract designs on background material called a "plate". The prints may be used for book covers, greeting cards, gift wrappings or for a print to be framed and hung on a wall.

VALUES

Experimentation stimulates imagination when designing and printing with a variety of materials and encourages invention.



Cardboard Block Print —Age 13

EQUIPMENT AND MATERIALS

Background material or "plate," about 8½" x 11" or larger, made of

Tagboard	Cardboard, stiff	Plywood
Masonite	Asphalt tile	

Materials

Sheet cork, corrugated cardboard, cardboard, sponges, tagboard, rough weathered wood, leaves, paper, sand, string, thread, yarn, steel wool, cheesecloth, dish cloth mesh, wire screen, torn or cut paper stencils, cloth. Some materials will be used to glue to the "plate," others to texture the plate after it is inked.

Poster paint or powdered tempera with wheat paste or liquid starch added

Printer's ink or block printing ink, water or oil base for printing on paper

Paper

Newsprint plain or colored to be used dry
Drawing paper, colored construction, colored tonal and rice paper used dry or damp

Shellac, paper punch, rubber cement or any quick-setting glue, scissors, X-acto knives or single-edged razor blades, brayers, bristle brushes, glass or masonite for spreading ink, newspapers

DESIGNS

For a tagboard plate: all parts of the design must be connected as in a stencil.

For a cardboard, plywood, asphalt tile or masonite plate: a line drawing of large and simple forms may be sketched on paper as a guide or a spontaneous design may be improvised directly on the plate with the materials. Cut shapes, arrange materials, evaluate and rearrange before glueing. Save scraps to use with imagination for another project.

PROCEDURE

Glue shapes of cut or torn materials to the background material or plate with shellac, rubber cement or other quick-setting glue. String or yarn can be arranged and glued for line design. Certain materials are glued for texture. Holes may be punched in paper or thin cardboard with paper punch for pattern. Enamel may be dripped on for texture.

Keep all materials as close as possible to the same level or some will be lost in the printing. When finished, shellac the whole plate and let it dry thoroughly.

Paint with a bristle brush or ink the designed plate with paint or printer's ink using a brayer as in linoleum block printing.

After inking plate and before printing, areas may be textured by dabbing with crumpled paper or cloth. Dampen any printing paper thick enough not to tear. Wet with a sponge or immerse in water and dry between blotters or newsprint so it is just damp, not wet. Place the paper over the inked plate and rub with the back of a large wooden spoon or a tablespoon. Lift a corner to see if it has enough ink. If not, rub again. Remove this first print or proof slowly and turn color side up.

Decide if the design needs additional shapes, colors or textures. Use a stencil with parts cut out for different colors. Shellac additions and allow to dry. Paint or ink these and apply upside down on the first proof. Ink a shape or a leaf and print several times from one inking. This gives a variety of dark and light. Press with spoon.

To add more color, the inked brayer may be run directly over parts of the first proof.

To add texture to this first proof, stipple an area with a damp sponge dipped lightly in paint or ink so as to keep the pattern of the sponge. Drop string or yarn dipped in ink for another line needed in the print.

Stick, vegetable, linoleum, innertube, plasticine or wood block printing may be combined with the above methods.

RESOURCE

The Code used for books is as follows:

- *** — Recommended for school libraries**
- **# — Listed previously in Resources**
- **L.H. — Library of Hawaii, Music and Art Room**
- **A.A. — Honolulu Academy of Arts, Educational Department**
- **A.D. — Studio of the Art Director**

BOOK

Secondary

*Heller, Jules. *Printmaking Today. An Introduction to the Graphic Arts.* New York: Henry Holt and Company, c1958.
Covers all printing processes with emphasis on experimentation. L.H., A.D.

LINOLEUM BLOCK PRINTING

Early prints and books were printed from wood blocks. Linoleum was later introduced as a substitute for wood.

Block printing may be used for pictures, greeting cards, textile design, calendars, posters and advertising.

VALUES

Block printing gives experience with line drawing, dark and light value and the appreciation of the beauty of hand printing.

EQUIPMENT AND MATERIALS

Linoleum: Counter top linoleum is softest, but battleship linoleum may be softened with heat
Piece of glass or masonite approximately 10" x 14" for spreading ink
Water or oil base printer's ink for paper
Textile ink for cloth
Paper: newsprint, plain or colored, rice paper, colored construction or tonal
Cotton, linen or silk cloth
Ink brayer
Tools for carving linoleum: veiners and gouges
Poster paint, white
Brush
Substitutes for ink

For printing on paper, mix 1 part boiled linseed oil, 1 part varnish and 2 parts powdered tempera, any color, to a paste consistency.

For textile printing mix 12 drops of vinegar, 6 drops of lemon juice, and 3 ounces of turpentine with oil paints or tempera to a paste consistency. After material has been printed and dried, set the colors with a hot iron.

DESIGN

An original design carved on a piece of linoleum can be transferred to paper or cloth by inking the linoleum with an ink brayer or roller and then pressing it against the paper or cloth. Water base or oil base printer's ink may be used on paper. Use textile ink on fabrics if permanency of color is desired.

The design or picture may be drawn directly on the linoleum before cutting or a sketch may be developed on paper and then traced onto the linoleum. Because of the limitations of linoleum, it is difficult to do detailed work so small cramped drawing should be avoided. It must be remembered that the print will be in reverse. Reversing the design is only necessary if there is lettering as in greeting cards.

There are several ways of carving a design. The simplest method is to cut a design in line. When this is printed, the result would be a white line if it is printed on white paper. Another procedure is to cut away everything but the line. This will result in a dark line design with the rest of the design white or the color of the paper. A design could be done somewhere in between these two methods, leaving white lines surrounded by dark areas and dark lines surrounded by light areas.

PROCEDURE

Cut linoleum to the desired size of your design. It is not absolutely necessary to use a square or rectangular piece of linoleum. Very often some interesting prints can be had by using varieties of shapes and sizes or scraps such as long narrow shapes or free form. Free form is a simple shape that is not symmetrical.

If desired, cardboard or a block of wood the same size as the linoleum may be glued to the burlap surface.

Sandpaper the surface of the linoleum lightly. Apply a thin coat of white poster paint with the brush on the surface of the linoleum. Let the paint dry. Another way is to sand linoleum and dust with talcum powder or with chalk dust from a blackboard eraser.

Trace or draw the design directly on the prepared linoleum. If a reversed print is desired, place sketch to windowpane and trace drawing on opposite side of paper. With a soft pencil cover the back of the original drawing or use carbon paper. Place on linoleum and trace.

After lines are drawn on the linoleum, use smallest veiner tool and cut out lines. If areas are cut out first, the hand will rub away guide lines. Use large veiners for wide lines and use gouges to cut away areas. If printing on cloth, do not use the smallest veiner.

Texture may be achieved with short cuts, cuts crossing and by leaving gouge cuts higher in background spaces.

Put a small amount of ink on a piece of glass to one side. Dip brayer in this ink and roll back and forth on the glass until brayer is evenly coated with ink. The ink will make a snapping noise. Apply ink on linoleum by rolling brayer in opposite directions.

One of the most simple ways to print is to place inked linoleum on several thicknesses of newspaper on the floor. Put printing paper on top of the linoleum. Place several sheets of newspaper on this and step on the block. Be sure that the edges and center of linoleum have equal pressure. Remove newspaper to peel off print.

The block may be placed on the table over newspaper, the printing paper placed on the inked block and rubbed with the back of a tablespoon or the hand or rolled with a dry, clean brayer.

Or use a clothes wringer or printing press if available.

All fabrics to be printed should be washed before printing to remove the sizing.

Printing on cloth may be done by placing the inked block, ink side down, on the cloth and hitting it with a mallet to send the ink into the cloth. Or place cloth on the floor over newspaper padding, place the block, ink side down, on it and step on the block. Step on the center and all four corners.

Paper or cloth for printing may be used dry or damp depending on the porous quality of either.

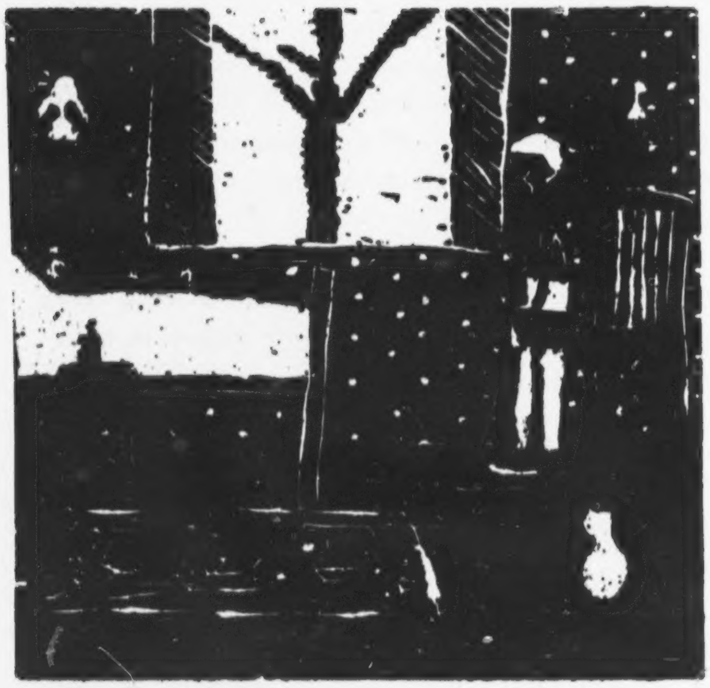
PRINTING TWO OR MORE COLORS

One block may be used for several colors if areas in the design are large and simple. Apply color with a brush. Apply first color, place paper over the block and print as many as desired. Clean block, apply second color and print, then repeat for more colors. Be sure to place paper over block in the same position when printing second and third colors.

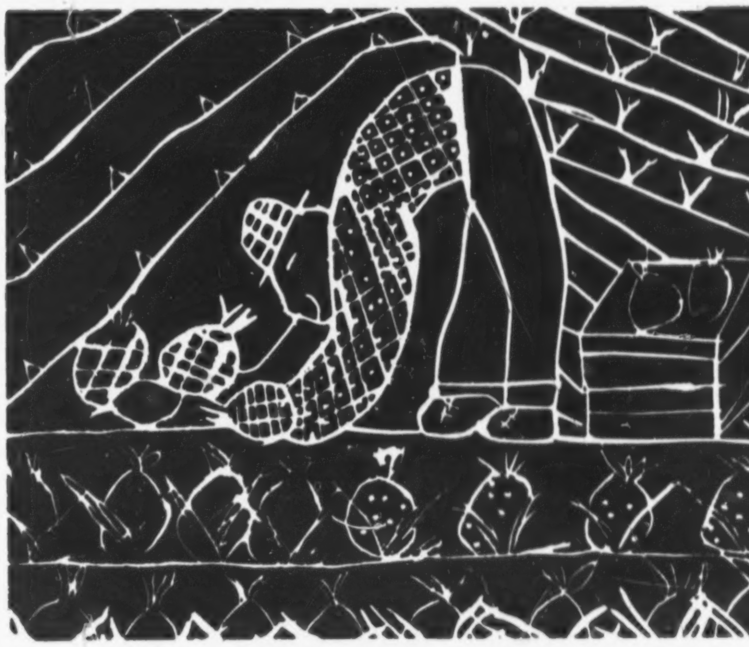
Experiment by applying several colors to the block with a brush and printing once. The colors will merge a little.

If the design is not simple, a separate block must be made for each color. A register will be necessary for this method. Refer to section on Silk Screen Printing for making a register.

Linoleum Block Prints

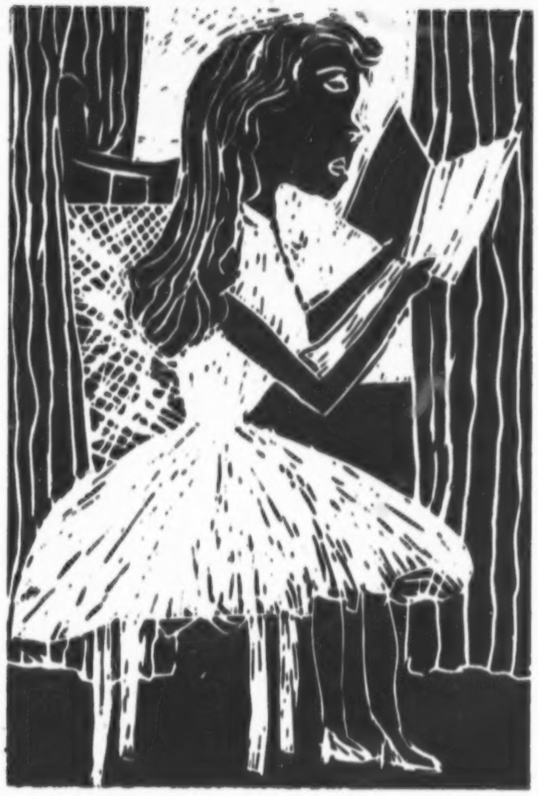


The Doctor—Age 9

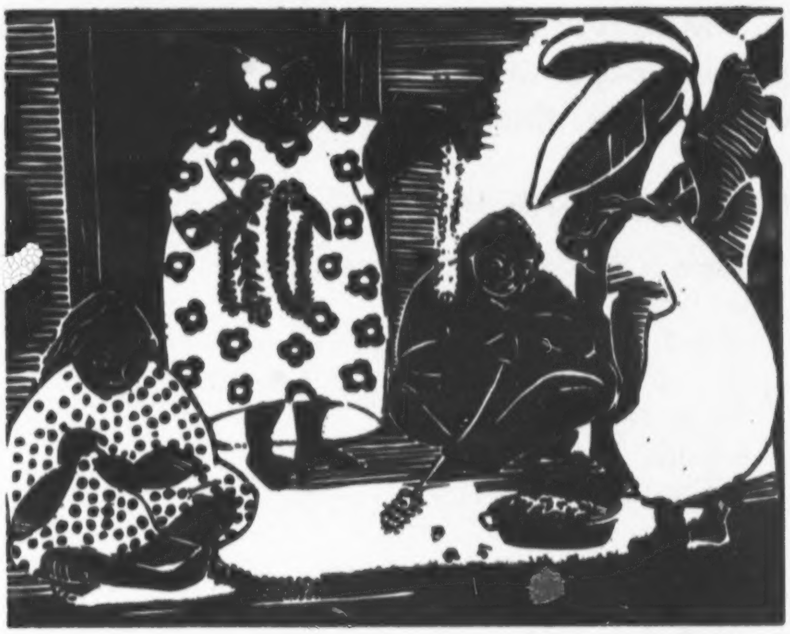


Picking Pineapples—Age 11

Linoleum Block Prints



Studying—Age 12



Lei Sellers—Age 16

RESOURCES

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- *** — Recommended for school libraries**
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- **L.H. — Library of Hawaii, Music and Art Room**
- **A.A. — Honolulu Academy of Arts, Educational Department**
- **A.D. — Studio of the Art Director**

BOOKS

Elementary and Secondary

#Cox, Doris and Weismann, Barbara Warren. *Creative Hands.* New York: John B. Wiley and Sons., Inc., c1945. L.H., A.A.

*Greenburg, Samuel, A.M. *Making Linoleum Cuts.* New York: Stephen Daye Press, c1947. L.H.

Rice, William S., B.F.A. *Block Prints, How to Make Them.* Milwaukee, Wisconsin: The Bruce Publishing Company, c1941. L.H.

#Robertson, Seonaid M. *Creative Crafts in Education.* Cambridge, Massachusetts: Robert Bentley, Inc., c1953. A.A., A.D.

Secondary

#*Art for the High School. Growing With Art Series.* Syracuse, New York: L. W. Singer Company, Inc., c1957. Pages 62-67. A.A., A.D.

Frankenfield, Henry. *Linoleum Block Printing with Color.* Camden, New Jersey: C. Howard Hunt Pen Company, c1941. L.H., A.A.

*Newick, John. *Making Colour Prints, An Approach to Linocutting.* Peoria, Illinois: Charles A. Bennett Company, Inc., c1952. L.H.

#Zaidenberg, Arthur. *Anyone Can Paint.* New York: Crown Publishers, c1942. Pages 226-232. A.D.

FILM

Grade Level	Title	Color	Time
3-12	How to Make a Linoleum Print	B & W	14 min.

MONOTYPE (MONOPRINT)

Monotype is a unique way of printing. The design is painted on glass or metal and printed by pressing paper over the design. Blending or shading of colors is possible. Usually only one print can be made, thus giving the name monoprint.

EQUIPMENT AND MATERIALS

Piece of glass or masonite approximately 10" x 14" or larger
Tubes of oil paint or poster paint with a little glycerine, liquid starch or paste added
Paper as for block printing
Brushes Spoons Rags
Palette, glass or white dinner plate

PROCEDURE

If using oil paints, place a few colors on the palette. If using poster paint, add both glycerine and paste for a different effect. Vaseline and powdered tempera combined give a tacky texture.

Paint the picture on the glass. Place paper over the painted area and rub with spoon or hand to get the print. Paper may be used dry or damp.

SUGGESTIONS

Explore the many techniques that can be developed in monotype. Gradation of dark and light can be achieved by applying more or less pressure on the paper while printing.

RESOURCE

FILM

Grade Level	Title	Color	Time
4-12	Monotype Prints	Color	5 min.

PLASTER BLOCK PRINTING

Printing with a plaster block is similar to wood or linoleum block printing. The advantage of using plaster is that it is easier to cut the design and the plaster gives an interesting texture.

EQUIPMENT AND MATERIALS

Plaster of Paris Mixing bowl or pan
Shoe box or other shallow cardboard cover for mold
Piece of glass or masonite
Paper and tools, same as for linoleum block printing

PROCEDURE

Make the plaster block.

Refer to mixing plaster in section on Sand Sculpture.

Pour plaster into the cardboard mold.

Set aside to dry, then pull away the sides of the mold.

Draw design with pencil, orange stick or dental tool directly on the plaster. Or transfer from sketch drawn previously on paper.

Use the same procedure in cutting and printing as in linoleum block printing.

WOOD BLOCK PRINTING

This craft is similar to linoleum block printing. The tools or gouges used are sturdier and sharper. It is more difficult and should not be attempted with younger chidren.

Apple box wood is very good because of its close grain, but it is interesting to experiment with other kinds of wood slabs. Sometimes the existing grain in a piece of wood produces interesting textures.

EQUIPMENT AND MATERIALS

Pieces of wood

- Apple box, pine, basswood
- Monkey pod, koa, poinciana, hau, jacaranda
- Kamani is hard and is recommended only for pupils on the secondary level.

Wood gouges and veiners   Brayer

Piece of glass or masonite   Sandbag

Paper and ink as for linoleum block printing

PROCEDURE

Use same procedure for carving and printing as for linoleum block printing. If the block is placed on a sandbag pad, it can be moved around while cutting.

RESOURCE

The Code used for books is as follows:

*** — Recommended for school libraries**
# — Listed previously in Resources
L.H. — Library of Hawaii, Music and Art Room
A.A. — Honolulu Academy of Arts, Educational Department
A.D. — Studio of the Art Director

BOOK

#Zaidenberg, Arthur. *Anyone Can Paint.* New York: Crown Publishers, c1942. Pages 204-225
L.H., A.D.

SILK SCREEN PRINTING

Silk screen printing is a stencil process. A design is drawn directly on the silk or organdy screen or a stencil is cut and adhered to the screen. A print is made by forcing paint with a squeegee through areas surrounding the stencil or through the cutout areas of the stencil.

This process is used for multiple reproduction of prints, posters, program covers, greeting cards, gift wrappings, book covers and textile designs on clothing, costumes and draperies.

Silk screen printing methods are **wax crayon, paper stencil, direct glue, film, tousche and glue** and **shellac.** Prints may be made on paper, cardboard, poster board, sheet cork, glass, wood and fabric. They may be of one or more colors.

VALUE

Silk screen introduces a very old and a widely used art printing process. It is a quick method for reproducing a large number of posters or cards and for printing designs on fabrics.

It provides opportunity for experimentation in making designs or pictures.

Silk screen may be used by artists in the production of fine art.

WAX CRAYON STENCIL

This is a simple and inexpensive method for all grade levels. It may be used for printing on paper or cloth.

EQUIPMENT AND MATERIALS

Organdy, net, crinoline, tarleton, curtain scrim, nylon for screen material; or commercial silk #8 or #10 mesh

Shallow tops of shoe boxes or other cardboard boxes, old picture frames or embroidery hoops for temporary frames; or permanent wood frames

Masking or gummed tape 2" wide and staples for fastening screen material to picture frame and for blocking out part of screen not needed; or wrapping paper, shellac or lacquer for blocking out

Powdered tempera or thick liquid poster paint with a little paste added for printing on paper; or screen process paint, water or oil base.

Textile ink or paint for printing on cloth if the material is to be washed

Cardboard for squeegee, stiff enough to force paint through screen; or a commercial squeegee

Paper for printing as for linoleum block printing

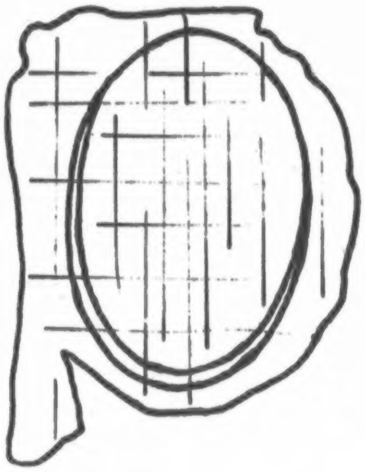
Cloth, plain for textile printing, washed to remove sizing and dried before printing

Wax crayon Single-edged razor blades
Stapler or hammer and tacks Brush

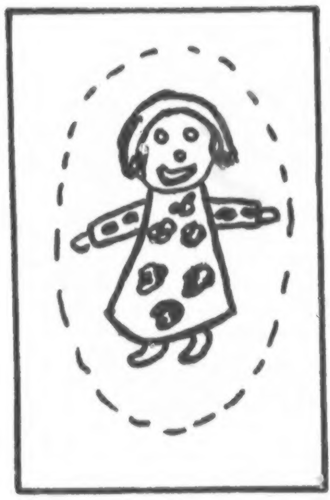
Cleaning agents: water for water base paints; paint thinner, turpentine or kerosene for wax crayon and oil base paints; lacquer thinner for lacquer and denatured alcohol for shellac

PROCEDURE

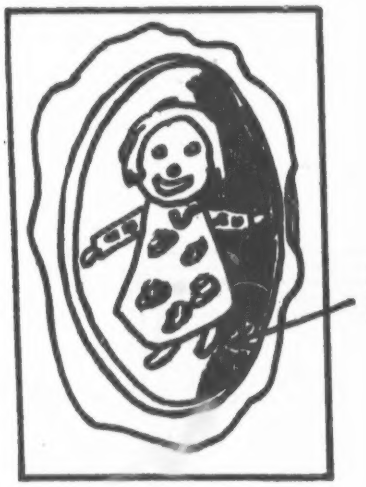
Embroidery hoops, oval or round: Stretch screen material tightly between hoops and trim with scissors. No taping is necessary. This is easiest for the younger children.



Organdy cut to fit embroidery hoops



Crayon drawing

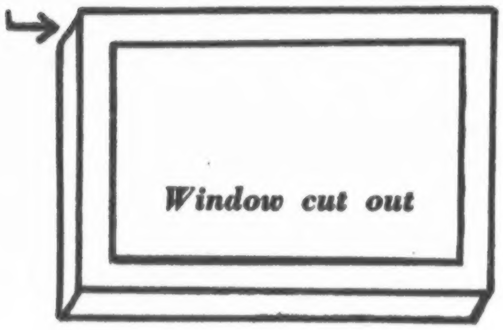


Blockout of background

Drawing under screen

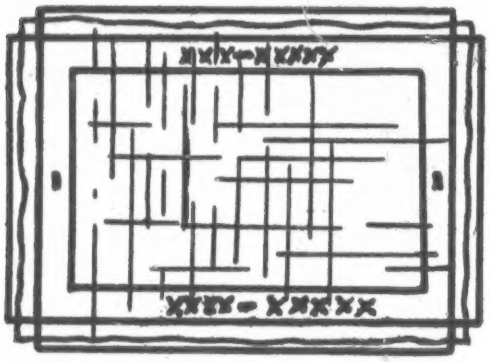
Cardboard box top: Older children can make their own cardboard frames, two working together. Cut window in shallow box top, leaving an inch margin. Stretch and staple screen material tightly and smoothly over window on the outside of box top, one child stretching and one stapling.

Corner split



If the sides are higher than a shoe box top and if stapling is difficult, cut window in box and split the box top at corners so it may be flattened for stretching and stapling.

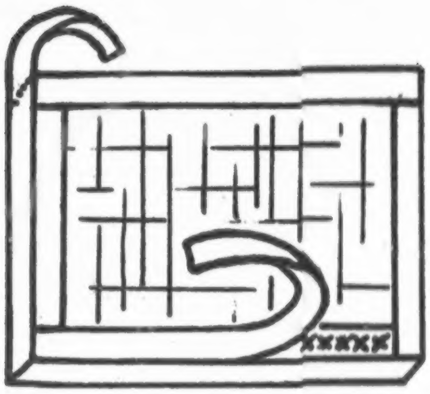
Flat for stapling



Be sure cloth fibers are running in straight lines. Staple diagonally in the form of an X to keep material from tearing. Begin stapling at center of each side and work toward ends. Staple on top or side of box.

If corners were split, turn box top over, bring up sides and tape them together again.

Outside

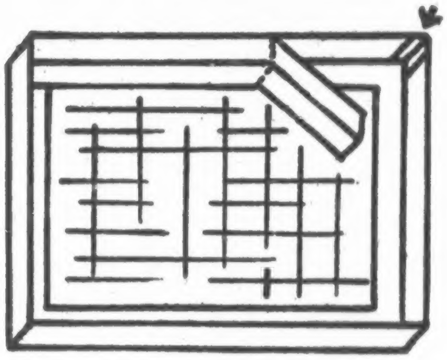


Tape applied over the stapling and around sides

Apply tape over the stapled margin and also around the sides to hold down the screen material on the outside of the box top.

Inside

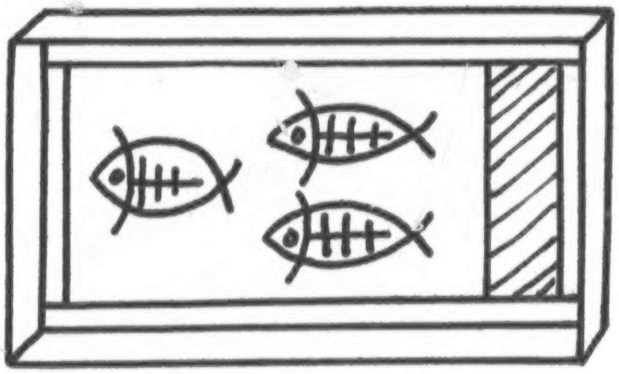
Folded tape applied half on sides and half on screen



Tape at corners

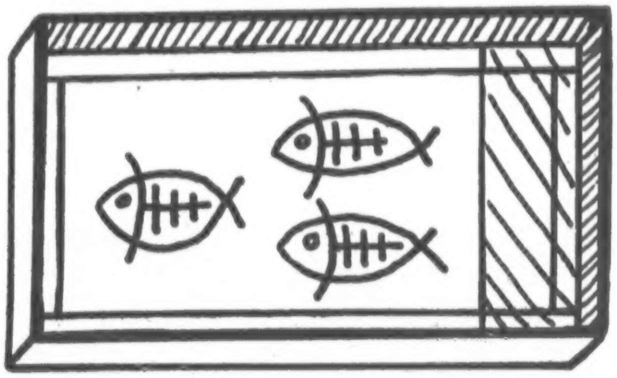
Turn the cardboard frame over and tape the inside. Fold tape in half lengthwise and cut to fit each side. Apply each piece of tape half on the side of box top and half on the screen. The tape should extend over the cut edges of the opening onto the material about 1/4" to assure clean edges when printing.

Outside



Screen blocked out

Inside



Screen blocked out

If necessary, the inside margin may be further waterproofed by applying shellac with a brush over the tape and extending 1/4" onto screen material to keep paint from seeping under tape. Clean brush with denatured alcohol.

Old picture frame: Fasten screen material to frame with tiny carpet tacks and then follow directions for taping a cardboard frame.

Design of picture: These may be realistic or abstract outline drawings or certain areas may be filled in solid with crayon. If the background is filled in, the areas adjacent must not be filled or the design would be blocked out and lost when printed. Design motifs or pattern may be drawn on large areas such as pattern on a dress or in a background. Lines varying in width make the design more interesting. Sharpen the crayon for fine lines. **Remember** that only the parts **not** blocked out will print on the paper or cloth when the paint is forced through the screen.

If the design is small and the screen large, block out the area not needed with wrapping paper attached to screen with tape or block out entirely with tape.

Draw design directly on screen with a dark colored crayon or if a sketch is made, it can be laid under the screen and traced with a crayon onto the screen. Turn screen face down over drawing for tracing. The tracing on the screen is called a stencil.

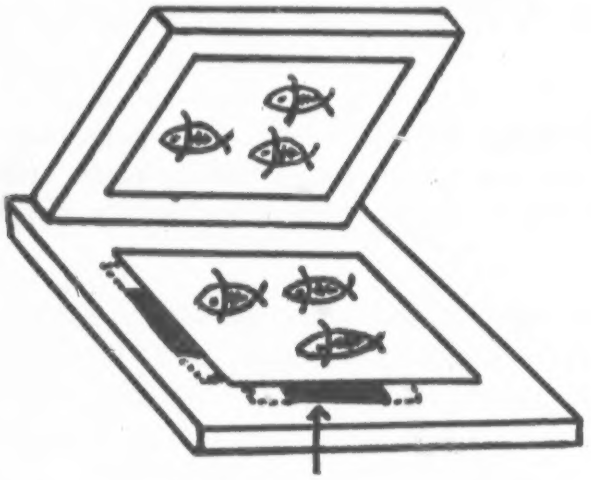
Leave about 2-2½" margin at two opposite ends of frame free of design to hold the paint. Leave at least 1" margin free on the other two sides.

The wax crayon acts as a resist to the water base paint. Apply crayon heavily for a strong, solid line or area. If the crayon is applied lightly, the paint will penetrate the screen, giving textured areas. However, crayon will never give a sharp, distinct edge. After the design is applied, hold screen against the light to see if more crayon is needed to block out the screen.

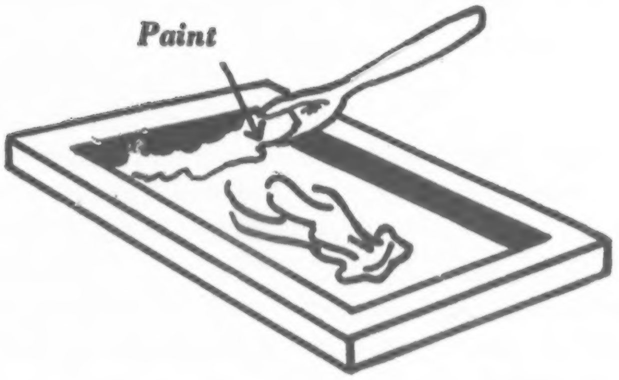
Squeegee. Cut a cardboard squeegee 1" smaller than the width of the inside of the frame so it can be moved easily. Cut it high enough to hold with both hands. Use thick, stiff cardboard and tape edges with masking tape to waterproof them. If thinner cardboard is used, cut several thicknesses and join by taping edges.

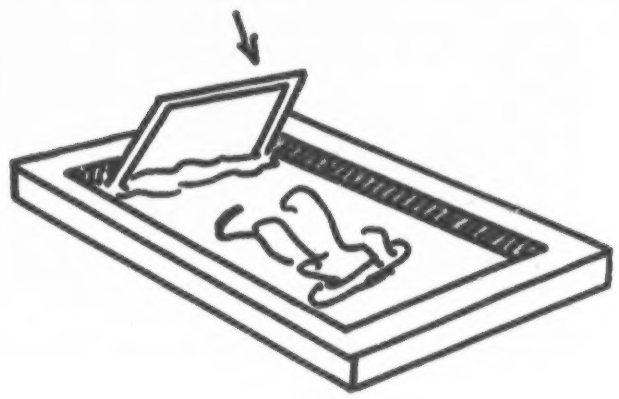
Printing: Mix paint with wheat paste or liquid starch to a jelly-like consistency. Place printing paper over newspapers or on a board of wood or masonite.

If the stencil must be screened onto the printing paper in the same position at each printing, cut the paper the same size for all printings. Make a **register guide** on a board. Tape pieces of **thin** cardboard on the lower left-hand side of board and place printing paper in position against **register guides.** Also make dots on board and frame so as to place the screen on the board in the same position for each printing.



Place screen face down over printing paper. Pour or spoon paint across one end of screen where there is the wide margin. Have enough paint to finish in one operation.





Have two pupils working together at opposite ends of frame, one to hold the frame while the other drags the paint across the inside of the screen with the cardboard squeegee. Hold the squeegee at 45° angle with both hands and push the paint through the screen onto the paper below. Remove print, place new paper, apply more paint inside screen and return.

Screening a Print—Age 10

If a print is not strong enough, add more paint and draw squeegee a second time in the **same direction.**

Double images are usually made if squeegee is drawn in both directions on one print.

If the crayon comes off with the paint after repreated printings, replace it with more crayon.

The pupil holding frame should lift frame gently by picking it straight up while the other pupil removes the printed paper.

If printing an all-over pattern, repeat the process all over the paper.

When finished with all printing, wash the frame with water if water base paint was used. When dry, remove wax crayon with paint thinner, turpentine or kerosene, if the screen is to be used for another design.

If textile ink or print was used for printing on cloth, find out the cleaning agent for screen at time of purchase.

PAPER STENCIL

EQUIPMENT AND MATERIALS

Paper, thin tracing or typing paper for stencils
Scissors, single-edged razor blades or stencil knives
Same materials used for wax crayon stencil

PROCEDURE

The cut paper stencil method is recommended as an an introduction to silk screening because of its simplicity. Its use is limited to broad and simple stencil shapes. Young children may tear the stencil or cut a stencil with scissors. Older children may use single-edged razor blades or stencil knives. Refer section on Stencils and Stenciling.

The design to be printed is torn or cut, forming a mask which resists the paint. The cutout areas will print and the remaining paper acts as "block out." Either the positive or negative stencil may be used. The positive stencil is the form cut away from the background. This is easier for very young children. The negative stencil is the remainder of the paper after a form is cut out.

A positive or negative stencil will stick to a screen dampened with water. A negative stencil may be attached at the four corners of the screen with masking tape or rubber cement. In either case the stencil will adhere to the screen after the first printing due to the tackiness of the paint.

Proceed as for wax crayon stencil printing.

PROCEDURES FOR DIRECT GLUE STENCIL, FILM STENCIL, TOUSCHE AND GLUE, AND SHELLAC METHODS

Direct Glue Stencil, Film Stencil, Tousche and Glue, and Shellac Methods

These methods are usually used in grades 7-12, but the Tousche and Glue Method has been used successfully at the upper elementary level.

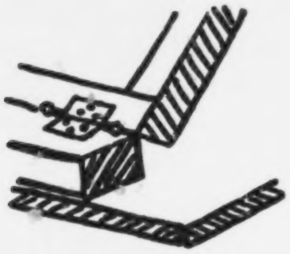
All the processes are excellent for printing on paper, but film stencil is the best method of printing on fabrics. Older students, both boys and girls, like to make things to wear. The various activities involved supply sustained interest for students at this age level.

Print for Muumuu—Age 16

EQUIPMENT AND MATERIALS

Screen of nylon, organdy or commercial silk in #8 or #10 mesh

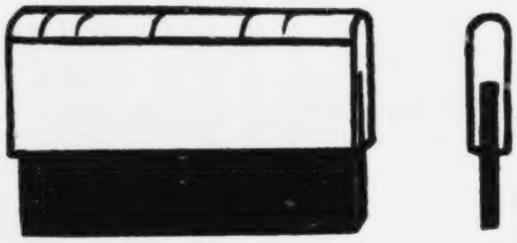
Frame of strips of wood about 2" in height by 2" in width reinforced at corners with corrugated fasteners or screw angles. If necessary, the frame may be fastened to the baseboard with two stationary hinges which have removable pins. The pins can be pulled out before removing the screen



Hinge

Squeegee, a device similar to a window washer made of wood with a piece of rubber about 3/8" thick fastened on the lower edge of the wooden handle. The rubber is the same width as the handle.

The squeegee is used to force the paint through the cutout areas of a stencil or through areas of a stencil which are not blocked out. A window washer squeegee or one made of cardboard may be used. The squeegee should be 1" smaller than the width of the inside of the frame. Hold squeegee at a 45° angle when forcing paint through screen.



Squeegee

Board used under the screen when printing.

Stencil film commonly referred to as lacquer film, nu-film, amber film, blu-film or pro-film. It consists of a film of lacquer over a waxed paper backing.

Stencil knife, x-acto knife or single-edged razor blade used to cut the film of lacquer, but not the paper backing.

Tousche, a black lithographic crayon in liquid form used mostly for free lines or shapes in designs. Tousche is applied with a brush.

Film adherent, a liquid solution used to adhere the stencil paper to the screen. Lacquer thinner can also be used as an adherent.

Stencil filler in liquid form used to block out areas not covered by the stencil. This does not mean to block out all areas or there would be no print. It is water soluble so it must be used with oil base paints.

Paint, oil base or water soluble screen process ink or paint. Textile inks are available for stenciling on cloth. Wheat paste or liquid starch mixed with poster paint or powdered tempera paint to a jelly-like consistency are good substitutes for commercial printing ink.

Base extender for diluting screen paint or ink.

Paper for printing as for linoleum block printing. Cloth for fabric printing washed to remove the sizing and dried before printing.

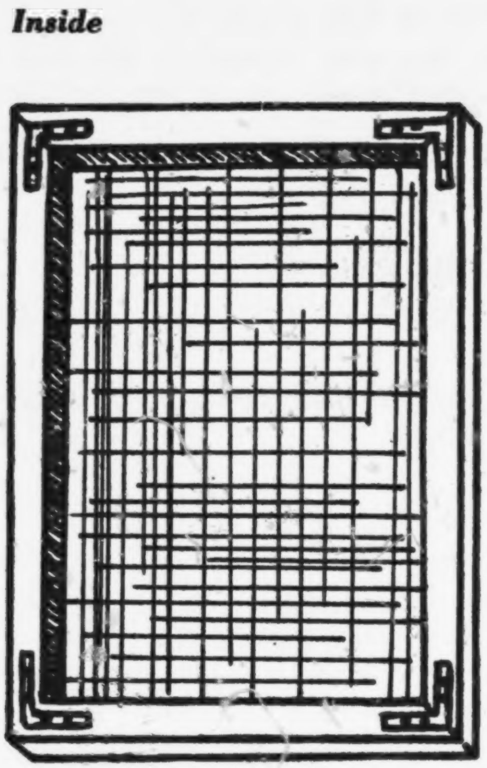
Cleaning agent for removing paint from the screen. Water soluble paints are washed out with water, but the oil paints and textile paints require solvents such as turnpentine, paint thinner or kerosene.. Lacquer film stencil is removed with lacquer thinner. If the stencil is going to be saved for future stenciling, paint thinner, kerosene, or turpentine will remove the paint only and will avoid harming the stencil.

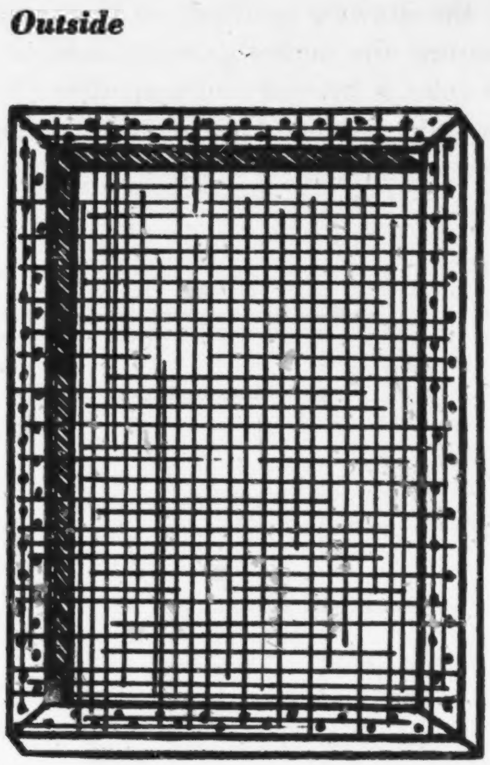
Masking tape
Gummed tape
Stapler or hammer and tacks
Newspapers
Rags

PREPARING THE FRAME AND SCREEN

After the frame made from 2" x 2" wooden strips has been constructed, a piece of silk, nylon or organdy slightly larger than the frame is stretched and attached. The frame may be large or small depending on the purpose.

Screen material tacked to frame





Stretching procedures vary, but the purpose is to stretch the silk taut and to fasten it securely to the frame.

Start stapling from the center of each side and proceed outward to the corners. The greatest amount of stretching is exerted when stapling the last two sides. See that the cloth fibers run in straight lines. To avoid tearing the cloth, place the staples diagonally to form an X. Screen tacks or carpet tacks can also be used in place of staples.

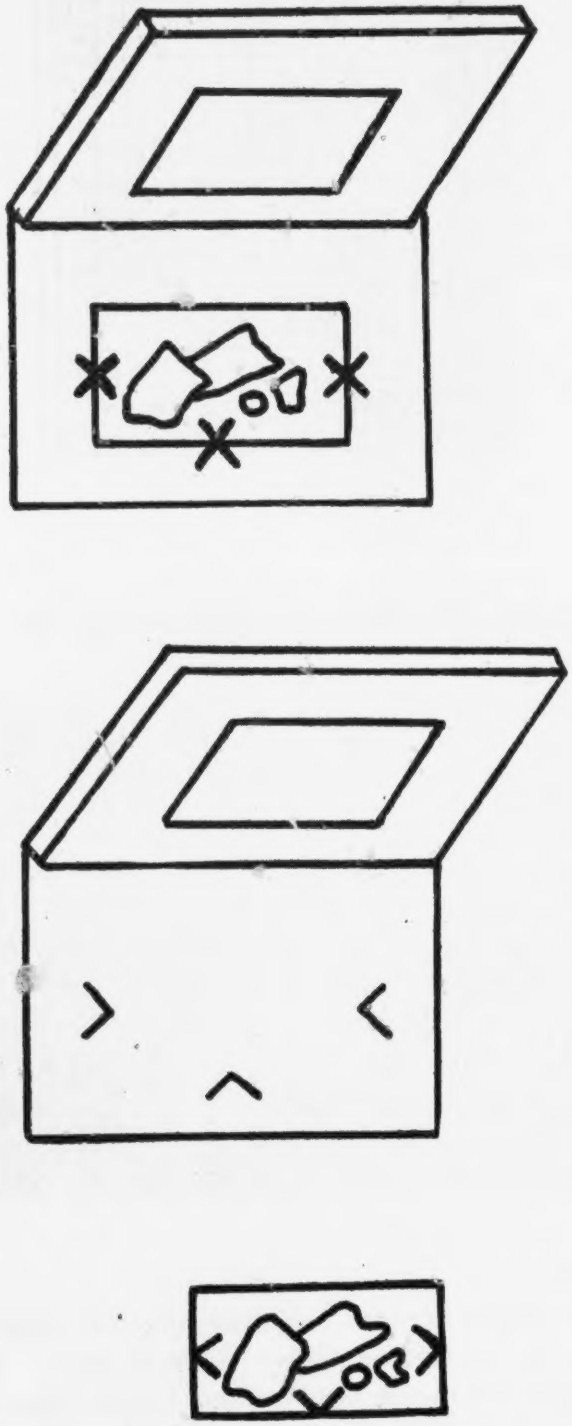
After the cloth is fastened onto the frame, apply tape over tacked area. Then fold 2" wide gummed tape in half lengthwise and apply it to screen and frame on the inside. Half of the tape is adhered to the cloth and the other half to the wooden frame. Waterproof the tape by using shellac, so that paint will not seep in between the silk, tape or the wooden frame. Extend shellac 1/4" onto screen.

Prints for Shirts and Skirts—Age 13

DESIGN

The project planned will determine the original design to be created. Have students sketch several designs and choose the best one. Large, simple areas without small details are better for beginners. Doodling is a good way to develop design when students lack security in creating. Refer to section on Decorative Design or Pattern.

If two or more colors are used, it is necessary to tape the master drawing on the board with masking tape. Mark its position in pencil with X marks, half on the drawing and half on the board. This is done because the master drawing must be removed as each color is printed and each time placed back in its original position. This assures good registration of each color because it is checked with the master drawing.



Master drawing with X marks

PREPARING PAINT FOR STENCILING

If printing on paper or cloth, mix base extender and the screen process paint color to about the consistency of thick cream. The more you add base extender, the more transparent the color becomes. If you wish it opaque, do not add any base extender.

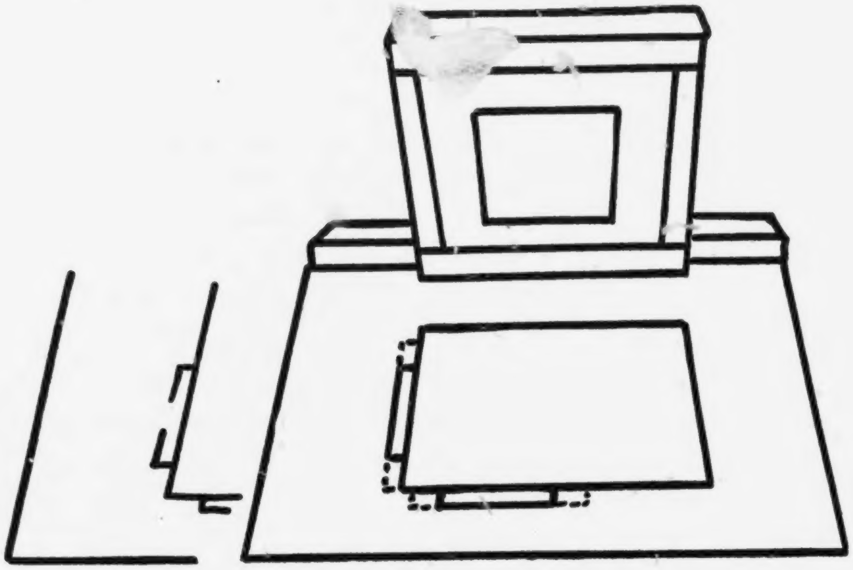
If printing on dark cloth, add a little white to a color to make it opaque.

SETTING THE COLOR

Refer to setting color in section Wax Crayon on Fabric.

STENCILING OR PRINTING PROCEDURE FOR ALL METHODS

Place the piece of paper to be printed under the screen and check to see that the print will be made within the proper margin. Once the paper is set, "L" shaped guide lines are drawn on the lower left hand corner. Then register tabs or guides made of oaktag, thin cardboard or any similar material are fastened with masking tape on the "L" shaped guide lines. This should be done accurately so that papers to be printed in one or more colors can always be placed into the same spot by fitting the paper against the register tabs.



Register guide

Two students should work together as described for wax crayon stencil. However, there should be three to five people to a team in large classes. A team is composed of a pupil who "feeds" the paper under the screen and holds the frame securely, one to stencil and manipulate the squeegee, another to remove the printed items from beneath the screen and one or two pupils to set the prints aside for drying.

To print set the paper under the screen within the guide lines. Pour a ribbon of paint on the lower portion of the screen. The feeder and the pupil who removes the paper both press down on the frame. Then the one who is stenciling holds the squeegee with both hands and pushes the paint to the other end of the frame. Be certain that the squeegee is drawn over the cutout areas to force the paint through onto the paper placed below.

Holding the squeegee against the frame, lift the squeegee and the screen together so that the printed paper can be removed from under the screen. The "feeder" then puts another piece of paper under the screen and the process is repeated.

DIRECT GLUE STENCILS

EQUIPMENT AND MATERIALS

LePages glue reduced 2/3 glue to 1/3 water
Oil base ink
Basic materials as listed previously

PROCEDURE

Glue can be dripped or painted with a brush or piece of string directly onto the silk screen. Leaves or shapes cut from paper or other materials may be pressed onto the screen to achieve textural areas and shapes. Texture may also be achieved with dry brush or spatter. Let glue dry. Margins are blocked out with wrapping paper, masking tape or gummed tape.

Shapes cut out of paper can be placed beneath the screen and arranged on the paper on which the design is to be printed. Use oil base ink. Water base ink cannot be used with glue. Draw the paint over the screen with the squeegee. Paper shapes will adhere to the screen.

Many of these stencil methods may be used together. These direct methods are good for experimentation.

Follow directions for stenciling (printing).

To clean the screen, remove the oil base paint with kerosene, paint thinner or turpentine. Remove the glue with water.

FILM STENCILS

EQUIPMENT AND MATERIALS

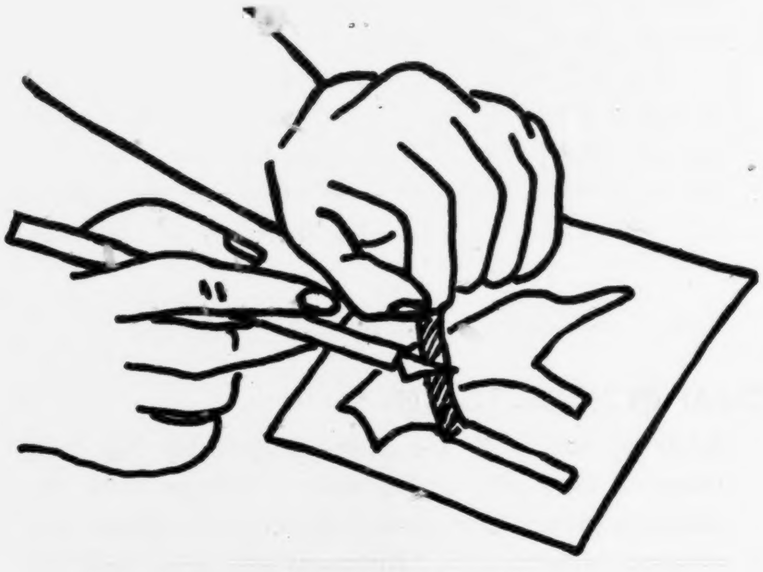
Lacquer film
Lacquer thinner
Stencil filler or lacquer
Stencil knives or single-edged razor blades

Adhering liquid
Cotton cloth
Rags

PROCEDURE

Nu-film comes in a transparent amber or blue colored sheet of film. It is composed of two layers. The upper layer is the lacquer film and the bottom layer is a waxed paper backing which is removed after the stencil is cut and adhered to the screen.
A carefully planned master drawing is placed on a drawing board and held securely in place by masking tape. A piece of lacquer film slightly larger than the entire design is placed shiny side up over the master drawing and anchored in place with masking tape.

All areas to be printed are cut with the stencil knife or single-edged razor blade. Care must be taken to cut only through the top lacquer film layer **and not through the waxed paper backing.** As parts of the design are cut, peel away the film layer from the backing by inserting the tip of the stencil knife or razor blade under the cut edge and lifting a corner of the top film layer. Lift and peel off the cutout pieces of film with knife and finger.



Film cut and peeled off with knife and fingers

The cutout areas are the areas through which paint will go. When cutting is completed, place the stencil with the shiny side up beneath the silk screen and follow directions for adhering the film to the silk screen.

ADHERING THE FILM TO THE SCREEN

When all parts to be printed have been cut and the film removed, the stencil is ready to be adhered to the screen.

Commercially purchased adhering liquid is used for adhering stencil to the screen. Have two small pieces of cloth ready. After one piece of cloth is dipped and saturated with the adhering liquid, press the wet cloth to a small area of film about the size of a silver dollar. Using the dry cloth, rub briskly **immediately** to absorb excess adherent and to press silk firmly against the stencil beneath. Apply systematically over the entire surface until all areas of the stencil are adhered to the screen.

Areas of the film stencil that have adhered to the screen change to a darker shade, leaving other areas lighter in color.

Be especially careful not to apply too much adhering liquid to one spot. This tends to dissolve the lacquer film. When lacquer film is dry, slowly peel off the waxed paper backing. If a piece of film sticks to the backing and begins to tear away from the screen, take a stencil knife and loosen the piece of lacquer film from the backing and retouch the error later with stencil filler or lacquer.

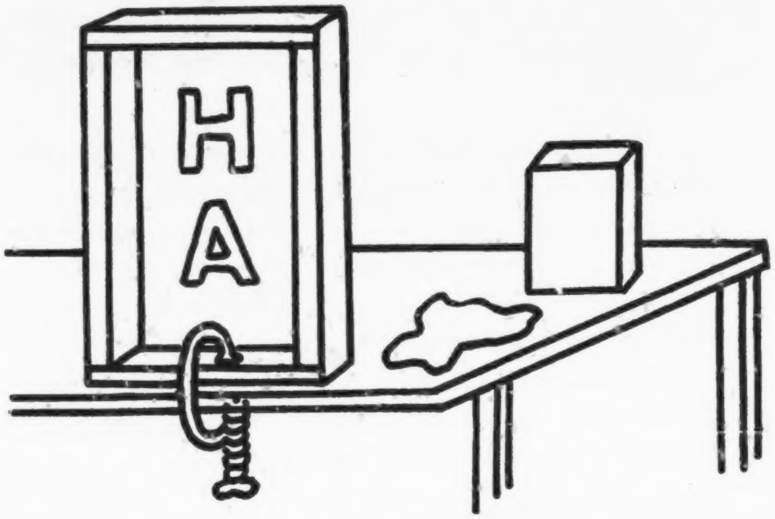
After the backing is completely removed, look for loose pieces of lacquer film. Dip a brush into adhering liquid, then lightly touch up these pieces so they will stick to the screen. Then stencil filler or lacquer is used with a brush to retouch and block out all areas where the lacquer film has been torn off the screen. Block off areas which are not wanted in the finished print with masking or gummed tape.

Follow directions for stenciling (printing).

CLEANING THE SCREEN

After as much of the paint as possible has been removed from the screen with a palette knife, the screen is placed over several sheets of newspaper and cleaned immediately. Otherwise the paint will dry into the screen and the cleaning will become more difficult.

Water soluble paint is washed out with water, but the oil base paint and textile ink are cleaned with kerosene, paint thinner or turpentine. Do not use lacquer thinner on film stencil if it is to be used again.



Large quantities of newspaper and rags are necessary for cleaning the screen. A thick stack of newspapers placed under the screen will absorb the paint which has been dissolved by the solvent. Throw away saturated newspapers and repeat the cleaning process over dry newspaper until all paint has been soaked up by the newspapers.

To remove the lacquer film from the screen, dampen the stencil with lacquer thinner from the back, then quickly place the damp screen over newspaper. Pour lacquer thinner over the screen from the front and douse the entire screen. Wipe the screen with rags and add thinner as needed. Lift the screen from the stack of newspapers. The lacquer film stencil which has been loosened from the screen will stick to the newspaper below. Repeat on clean newspaper until the entire area is free of lacquer film.

To clean areas where particles are still clinging to the screen, press a wad of cloth dipped in thinner over these areas. Brace the screen with another wad of cloth from the opposite side, then rub simultaneously in a circular motion. During the clean-up have someone hold the screen or use a "C" clamp to fasten the screen to the edge of the table. Repeat clean-up, using clean rags until the entire screen is free of paint and lacquer film. The screen should be held against the light periodically to see that all traces of paint and stencil film are removed. A needle point may be poked through stubborn areas to open up holes in screen for paint to pass through when screen is used again.

TOUSCHE AND GLUE METHOD

EQUIPMENT AND MATERIALS

Tousche (or tusche)	Turpentine
LePages glue	Paint thinner
Printer's ink, oil base	Paint brushes

PROCEDURE

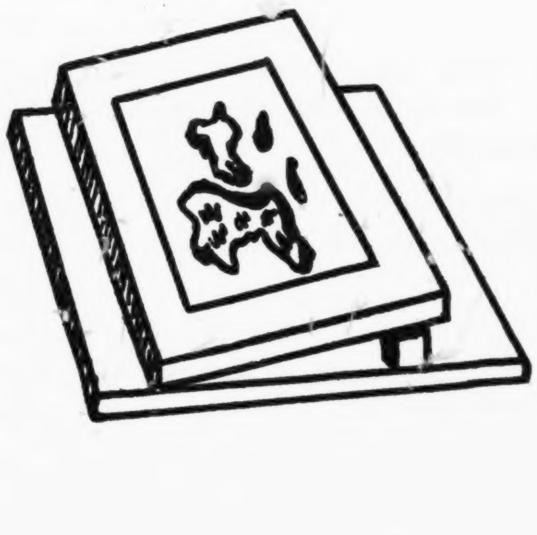
A master drawing may be made first, but changes may be made with silk screen pencil, tousche and brush or crayon as the design is traced on the screen. Experiment with combinations.

A free, spirited brush line quality may be obtained more easily by using tousche, which is a black lithographic crayon in liquid form. Tousche can be thinned with warm distilled or rain water. Before taking from can, mix thoroughly because it settles to the bottom. Tousche may be washed off the brush with water when still moist. If dry, remove with turpentine or lacquer thinner. Gradation of width of lines and shading from light to dark makes the stencil more interesting. Use a tiny brush with tousche for fine lines. Sharpen a crayon.

For experimentation: Use string, wire mesh, sandpaper, thin wood, lace, lace doily or anything with pattern under screen to give texture to background or parts of the stencil. Rub hand on silk over one or more of these. The darkest part will show when stencil is printed.

The screen is placed over the design, slightly raised with supports so that it does not touch the design. Paint with tousche the areas or lines which are to be printed. Be sure it is applied thickly enough so screen is "blocked out" in those areas. Hold it to the light and examine for pinholes. Cover these with more tousche. Let dry **overnight.**

Screen on supports



Mix LePages glue, 1 part water to 1 part glue. **Raise frame on supports while spreading glue.** Distribute a "ribbon" of glue evenly along top of screen and squeegee quickly over the design several times. The squeegee must be held perpendicular to the screen when applying glue because in this position the glue **is not forced** through the screen.
This should block out the rest of the design area not to be printed. If some places are missed, touch up with a brush. Since tousche is oily, areas printed with it will resist the glue. Stiff heavy cardboard, matboard or illustration board with a sharp straight edge make good squeegees for this purpose.

When glue stencil is dry, the touche is removed with turpentine or paint thinner. The solvents will not affect the glue areas because the glue is water base material. As a result the oil base tousche will be the only material affected by the solvents. The screen is now "open" and ready for stenciling or printing. Since it is a glue stencil, oil base ink must be used.

Follow directions for stenciling (printing).
The oil base paint or screen process ink is removed with turpentine, kerosene or paint thinner, and the glue stencil is removed with water.

PROCEDURE FOR TWO OR MORE COLORS FOR FILM STENCIL AND TOUSCHE AND GLUE

Plan design on paper with large, simple areas for master drawing. Draw with pencil or pen and ink. Paint in color areas with water colors or poster paint. If desired, repeat a color again or blend with part of another color.

A stencil must be made for each color. If design is to be used again, make a screen for each stencil.

When printing one or more colors, work from light to dark colors except when putting a light color over a dark one to get texture. Make the number of prints wanted with No. 1 color, then No. 2 color and so on as follows:

If color No. 1 is light blue, print number desired; if color No 2 is red stencil red onto the prints; then if color No. 3 is black, stencil black onto the prints. This will give a three-color print,

Be sure to use a register.

FILM STENCIL

Follow directions for film stencil.
Cut film stencil only for the part to be light blue.
Adhere film stencil to screen.
Place printing paper against register guides.
Stencil prints with light blue.
Clean screen, removing stencil.
Repeat process for red, then black.
Check stencil each time with master drawing placed on board with X marks as in diagram previously described.

TOUSCHE AND GLUE

Place master drawing in position as in diagram.
Draw with tousche only the parts to be light blue.
Let tousche dry.
Glue screen once, or twice if necesary.
Clean out the tousche.
Replace master drawing with printing paper.
Place printing paper against register guides.
Stencil prints with light blue color (oil base).
Wash glue from screen and dry.
Place master drawing under screen.
Repeat procedure for red.
Place master drawing under screen.
Repeat procedure for black.

SHELLAC METHOD

EQUIPMENT AND MATERIALS

Electric iron
Vaseline
Chipboard (cardboard)
Shellac
Denatured alcohol

PROCEDURE

Paint the completed design drawn on tracing or typewriter paper with orange shellac. When it is dry, the shellac painted design is put over a thick piece of chipboard covered with vaseline. The vaseline holds the paper stencil in place so that loose pieces will not be lost during cutting.

The areas to be printed are cut out with a stencil knife or single-edged razor blade and carefully removed. All other areas will remain on the chipboard as the vaseline holds the stencil in place.

Place the silk screen over the stencil and chipboard. To adhere the stencil to the screen, a warm iron is used. A piece of cloth is placed over the screen and stencil. The cloth acts as a buffer so that the iron will not burn the screen. After the stencil adheres to the screen, pull the chipboard away carefully from the screen. Wipe off the remaining vaseline on the back of the screen, then block out all other areas with masking tape.

Stenciling is done as described previously. Shellac stencil is removed with denatured alcohol and paint is removed with either paint thinner or water, depending on the kind of paint used.

RESOURCES

The Code used for books is as follows:

*** — Recommended for school libraries**
# — Listed previously in Resources
L.H. — Library of Hawaii, Music and Art Room
A.A. — Honolulu Academy of Arts, Educational Department
A.D. — Studio of the Art Director

BOOKS

Secondary

#*Art for the High School. Growing With Art Series.* The L. W. Singer Company, Inc., c1957. Pages 68-76. A.A., A.D.

Biegeleisen, J. I. and Cohn, Max Arthur. *Silk Screen Stenciling as a Fine Art.* New York: McGraw-Hill Book Company, Inc., c1942. L.H., A.D.

*Biegeleisen, J. I. and Cohn, Max Arthur. *Silk Screen Techniques.* New York: Dover Publications, Inc., c1959. A.D.

#Heller, Jules. *Printing Today, An Introduction to the Graphic Arts.* New York: Henry Holt and Company, c1958. L.H.

#Stephenson, Jessie Bane. *From Old Stencils to Silk Screening.* New York: Charles Scribner's Sons, Ltd., c1953. Pages 153-169. L.H.

Sternberg, Harry. *Silk Screen Color Printing.* New York: McGraw-Hill Book Company, Inc., c1942. L.H.

Summer, Harry and Audrieth, Ralph M. *Handbook of the Silk Screen Printing Process.* New York: Arthur Brown and Brother, c1941. A.D.

ADVANCED PRINTING PROCESSES

ETCHING

Etching is the process of biting lines or areas in a copper or zinc plate by means of nitric acid. The plate is then printed by means of a roller press.

DRYPOINT

Drypoint is an engraving done on a copper or zinc plate with a sharp pointed tool. It is classed as a kind of etching. This cutting of the metal produces a burr that makes a velvety effect when printed. No acid is used in drypoint. Drypoint is sometimes combined with etching on the same plate.

Students may substitute plastic for the metal plate and print in a clothes wringer. A sharp pointed dental tool may be used.

LITHOGRAPHY

Lithography is the process whereby a greasy crayon is used to draw on an extremely smooth limestone or a zinc surface. The surface is then etched. A roller is then used to apply ink. The ink is attracted only to that part of the stone where the original drawing occurred. A very heavy scraper type printing press is used to transfer prints to the paper.

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BOOKS

Secondary

#*Art for the High School. Growing With Art Series.* Syracuse, New York: L. W. Singer Company, Inc., c1947. Pages 77-79. A.A., A.D.

#D'Amico, Victor. *Creative Teaching in Art.* Scranton, Pennsylvania: International Textbook Company, c1953.
Etching and Lithography, Chapter IV.
L.H., A.A., A.D.

#Zaidenberg, Arthur. *Anyone Can Paint.* New York: Crown Publishers, c1942. Pages 192-197, 234-236.
L.H., A.D.

EXPLORING AND EXPERIMENTING BY COMBINING DRAWING AND PAINTING MEDIA, PLIABLE AND RESIST MATERIALS

Experimenting and becoming familiar with any medium or materials releases creativity. There is not just one way of doing things. Provide many kinds of materials to encourage exploration. Young people should be free to work with a single material or to combine two or more in two-dimensional and three-dimensional activities. By exploration they learn what materials are pliable like paper that can be rolled and which ones offer resist such as wood that must be cut or sawed.

Encourage students to do independent thinking, make their own choices and figure out how to accomplish their goals, rather than to teach them to do things step by step. In this way self-confidence and security in accomplishment are developed.

Many of the materials listed and others provided by pupils and teacher may be used in original collages, stabiles and mobiles, dioramas, puppets and other constructions. Originality means that each pupil's work must be an individual expression and therefore different from any other.

Constructions are any three-dimensional designs of one or more materials, realistic or abstract. Design means the plan or overall shape or form, not decorative pattern.

Any of the following may be combined with each other or with other materials:

Paint
Charcoal
Waterproof ink, black and colored
Colored Chalk
Pencil
Wax Crayon
Pen and Ink

The activities suggested in the list of materials may be increased by the imagination, interests and needs of teachers and students.

MATERIALS TO BE COLLECTED

NATIVE MATERIALS

Refer to section on Hawaiian Crafts.

PAPER

Newspapers for paintings and papier-mâché.
Plain, colored and printed papers including scraps.

Tissue
Construction
Crepe paper
Newsprint
Shelf paper
Cellophane
Metallic paper
Wallpaper

For

Book covers
Christmas ornaments
Gift wrappings
Paper sculpture
Torn paperwork
Costumes
Greeting cards

Paper bags for puppet heads, puppets and masks.
Paper doilies and cupcake holders for Christmas ornaments, doll costumes and valentines.
Corrugated paper: white, natural and colored for constructions, dioramas and experiments in decorative design.

CARDBOARD

Thin and flexible for paper sculpture.

Boxes, all sizes and shapes for constructions, dioramas, box animals and puppet stages. Sides of boxes for paintings, posters and collages.

Stiff corrugated cardboard for constructions and dioramas.

Paper cups for Christmas ornaments.

Paper plates for masks and tambourines.

Paper luau plates, two fastened together with masking tape, for puppet heads.

Tubes from toilet tissue, paper towels and yardage for Christmas ornaments, puppets, animals and constructions.

Ice cream cartons for wastebaskets and for storing materials.

Oatmeal boxes for drums, knitting boxes and box animals.

Milk bottle tops, ice cream and cottage cheese carton covers for Christmas ornaments and wheels.

Egg cartons and egg crate separators for Christmas ornaments.

FABRICS

Plain, colored and printed cloth of all kinds for costumes, doll clothes, appliqued designs, folders and bookbinding, collage, weaving, block and screen printing.

Socks for arm puppets and sock puppets.

Stockings for weaving and puppets.

Burlap for creative stitchery, block and screen printing and texture on clay.

Felt, flannel and flannelette for paint pads for stick and vegetable printing.

Felt for puppet hands.

Window shades for paintings, murals, maps, charts, book covers, bookbinding and heads of drums.

Oilcloth for book covers and place mats.

PLASTICS

X-ray film and plastic sheets for shadow puppets and shapes for mobiles. Soak film in a solution of 1 tbsp. of washing soda to 1 qt. of hot water. Cool, remove emulsion and rinse in water.

Plastic containers that can be cut for mobiles, collages, and Christmas ornaments. Plastic may be sanded, then painted with water colors, thinned poster paint or colored inks.

WOOD

All sizes and shapes from carpenter shops, and school shops for puppets, boats, furniture and other constructions

Dowels for masts of boats, mobiles, constructions and stick printing

Driftwood for constructions, puppets and mobiles

Limbs of trees for Christmas trees and egg trees

Nails kegs for drums

Boxes for constructions and woodwork

Clothespins for dolls, Christmas ornaments and stick printing

Milk nickel sticks and tongue depressors for Christmas ornaments, belt looms, stick printing and tools for clay

Picture frames for weaving looms, silk screens and creative stitchery

Wooden spools for toys, dolls, puppets and stick printing

Wooden spoons for puppets, angels and Christmas ornaments

Thin sticks and twigs for stick puppets

Twigs as a substitute for brushes in painting

Sawdust for collage and dioramas, to mix with wheat paste for modeling, to add to papier-mâché

Wood shavings or curls for puppet hair and Christmas ornaments

Excelsior for stuffing and hair

Wooden beads for doll or angel heads

Wood for wind chimes

METAL

Tin cans for push puppets

Nails, screws and tacks

Umbrella stays for stick and shadow puppets

Pipe cleaners for decorations, Christmas ornaments, puppets and papier-mâché animals

Wire screen for spatter work and creative stitchery

Wire including coat hangers for wire sculpture and armatures for papier-mâché animals and figures

Tin foil and tin-foil pans for Chrstimas ornaments and other crafts

Tin and aluminum sheets, thin, for constructions

Copper sheets for copper enameling

Copper pot cleaners for hair for angels and puppets

Chicken wire for papier-mâché foundations and mosaics

MISCELLANEOUS

Leather scraps for puppet hands

Colored glass including beach glass for mosaics and mobiles

Cotton for snow, hair and stuffing for puppet heads

Corks for stick printing and Christmas ornaments

Buttons for eyes

Inner tubes and linoleum for block printing

Sponges for stick printing

Raffia for weaving

Canec for collages

Yarn, string and rope for weaving creative stitchery, string painting and hair for puppets

Miscellaneous for ornaments: rickrack braid, ribbon, feathers, fur, artificial flowers, sequins, beads, earrings and other jewelry

Electric light and flesh bulbs for puppet and angel heads

Masonite and asphalt tile on which to model with clay

CARE OF MATERIALS, TOOLS AND EQUIPMENT

PAINT, LIQUID POSTER

Stir and add water when necessary. Turn container upside down at intervals if covered tightly.

A little oil or vaseline around the inside of lids will keep them from sticking to the jars.

GLAZES

Stir and add water if too thick. Let stand and pour off a little water if it is too thin. If glazes are homogenous, add a very **little** water when evaporated.

COLORED CHALK

Keep flat in a single layer or standing.

CLAY

Refer to care of clay in section on Ceramics. Moist clay in plastic bags will harden in a warm climate if it is not used within a few months after purchasing.

BRUSHES

For water paint: Wash carefully to be sure there is no paint left in the heel of brush. Dry bristles on cloth and stack upside down in container with bristles up.

For house paint, enamels or varnish: Clean in paint thinner or turpentine. Wash with soap, working soap into heel of brush. Rinse in clear water, dry and stack upside down.

For shellac: Clean in alcohol and wash with soap and water.

For paste or glue: Wash in soap and water soon after use.

SPONGES

Wash carefully to remove all paint or clay.

TOOLS

Keep hammers, braces and bits, hand drills and bits, saws, chisels, metal shears, pliers, files and rasps flat in a drawer or placed on a wall in a cupboard. If not in use for a long period of time, clean off rust with steel wool, wrap in an oily cloth or oil with any kind of grease or heavy motor oil.

CLAY TOOLS, CLOTHS AND BOARDS

Wash with water each time after using in a sink which has a clay trap. Otherwise use buckets of water so that clay will not clog the drain of an ordinary sink.

STICK PRINTING TOOLS

When finished with a tool, wash immediately in bucket or can of water. Place on table or in a box to dry.

MATERIALS COLLECTED

Store in separate boxes or place several materials in a large shallow box and label boxes.

RESOURCES

FILMS

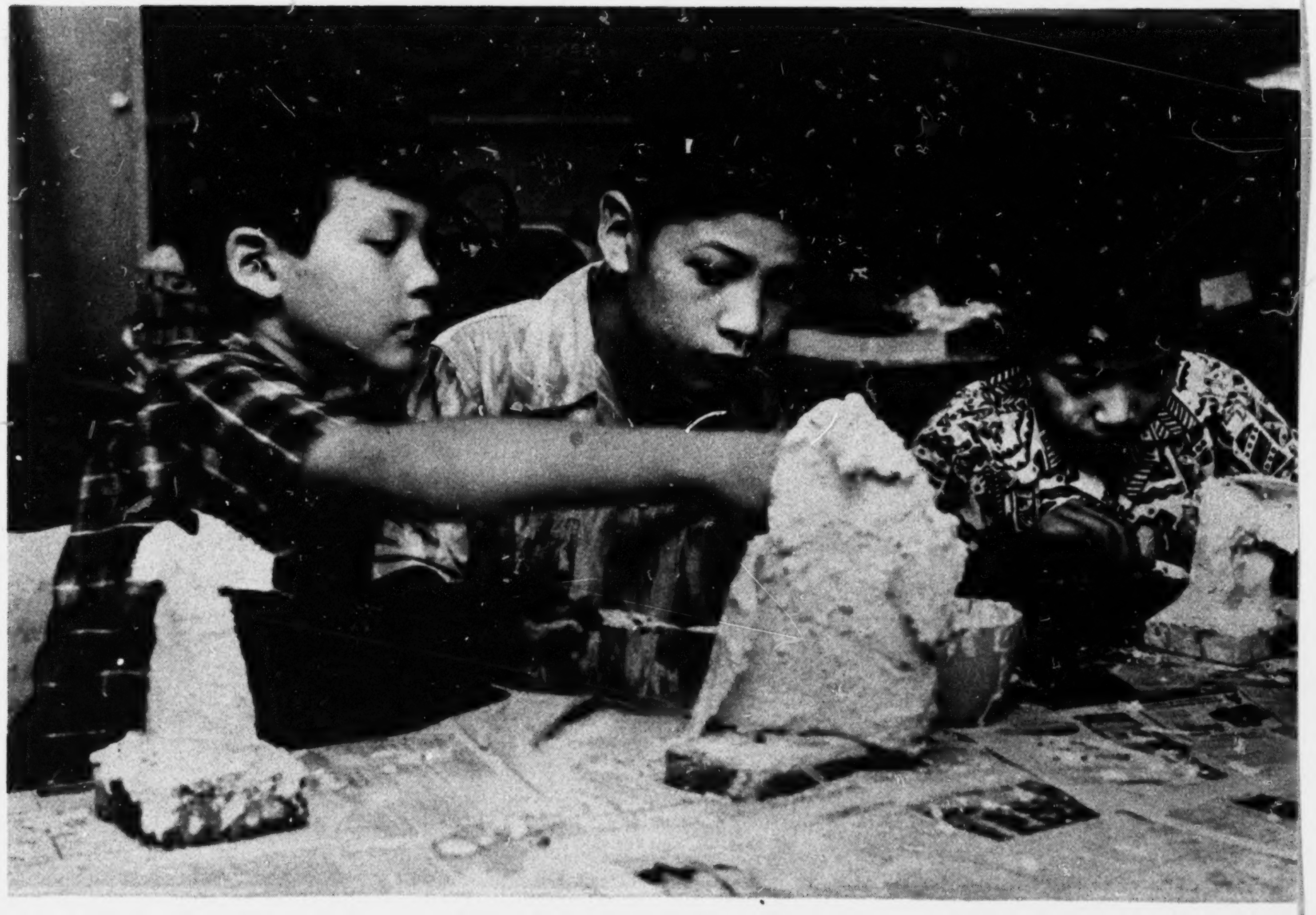
Grade Level	Title	Color	Time
K-6	Safe Use of Tools	Color	6 min.

FILMS

Grade Level	Title	Color	Time
1-6	Care of Art Materials	B & W	11 min.

Part III

CRAFT PROCESSES



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DESIGN FOR CRAFTS

Crafts are a form of the arts. A creative craft is a piece of handwork that is designed and constructed by one person who is sensitive to his material and derives satisfaction from creating with it. Too often crafts are rated as a minor art. If any handcraft has creative quality with excellent design and craftsmanship, it is fine art.

The structure or form of most handcrafts is three-dimensional. All pupils should have the opportunity to make things in three dimensions which are tangible and concrete in contrast to the forms in drawing and painting which require imagination for depth or thickness. They should have the opportunitiy to use line, color, texture and form in a variety of materials and in many experiences to stimulate fresh ideas and interest. In exploring the characteristics of paper, cardboard, wood, clay, papier-mâché, metal including wire, plaster and cloth, pupils are able to satisfy the natural urge to create and arrange. Thinking in materials and using tools develops initiative in the solving of problems: how long, how thick, what color, how to join.

Young children should explore and understand materials and tools even though the results of their work are not proficient by adult standards. There is a natural creative growth as in drawing and painting—the manipulative, symbolic, early expressive and expressive stages. It is very important that the project be suited to the child's maturity so that this growth is developed by the child. The craft is too difficult if teacher or parent must do part of the work.

Older pupils must acquire enough skill in technical performance to design things of which they may be proud, skills to be introduced as needed to express an original idea. Good craftsmanship is not an end in itself, but used to enhance good design.

Interest in a craft may be stimulated through demonstrations, exhibits, films, filmstrips, slides, magazines or books.

VALUES

Craftwork:

- Gives an opportunity to design and work in three dimensions.
- Develops appreciation of the qualities of various materials.
- Provides tactile experience with various textures.
- Develops hand-mind coordination.
- Develops skills for good craftsmanship.
- Provides an opportunity to plan and think through a problem.
- Releases tensions.
- Provides an opportunity to share and help others.
- Develops responsibility in the care of materials and tools.
- Develops responsibility in carrying a project through to completion.
- Provides confidence and pleasure in the ability to construct and create.

DESIGN (Form, Shape or Structure)

A good design for a craft is a purposeful organization of various elements or parts that is pleasing to observe and suited to its function. A boat must float, a pitcher must pour and a vase for flowers must hold water and must not leak. A piece of sculpture should be pleasing to observe from any angle.

Simplicity should be emphasized for the design of a three-dimensional object. The purpose for which any article is made determines the kind of material to be used, the overall design, shape or form and whether or not it should have decoration, decoration to enhance the beauty of the material without concealing it. Superfluous decoration should be avoided. Be careful of the relation or proportion of the decorated area to areas not decorated or the form (shape) may be spoiled. Nor should one material simulate the qualities of another as painting metal to look like wood.

The suitability of color and texture in an article must also be considered. Sometimes a bright color is necessary for accent, but a quiet color is better for a restful atmosphere. A cup needs to be of a smooth texture, but a vase may be rough.

EVALUATION

The results of a pupil's work should be purely personal or individual because design involves intuition and feeling as well as intellectual understanding of the materials and tools. Imagination, invention and originality are just as important in crafts as in drawing and painting. Looking at a clay piece and reproducing it is not originality. When the **uniqueness** of each child is developed, the art products of a class will all be different. Skills from patterns or detailed instructions just to assure perfect results give a certain satisfaction, but how much greater is the joy of creating one's own product from start to finish. The full value of craftwork is lost when decoration is done on something made by someone else as on clay pieces made from commercial molds or on ready cut wooden bowls and trays.

Good structure and organization in clay, wood, metal, stone or other material will involve the following:

Variety, enough change to avoid monotony.

Order, balance between parts, harmony and simple proportions.

Unity, everything needed, nothing superfluous.

Improvement comes with practice and with the evaluation of good design in articles made by others.

APPRECIATION

When pupils at any age level have many design experiences in handcrafts with evaluations, they will be able to appreciate and be critical of the design of industrial products. They will develop good taste as consumers and it is hoped they will demand good design from industry. Appreciation may come from seeing, touching, holding or using an article. I may also be developed by seeing examples of fine design in crafts and by having discussions.

RESOURCES

The Code used for books is as follows:

- *** — Recommended for school libraries**
- **# — Listed previously in Resources**
- **L.H. — Library of Hawaii, Music and Art Room**
- **A.A. — Honolulu Academy of Arts, Educational Department**
- **A.D. — Studio of the Art Director**

BOOKS

Elementary

#Denver Public Schools, Department of Art Education. *How Children Develop in Three-Dimensional Form.* Denver, Colorado. A.A., A.D.

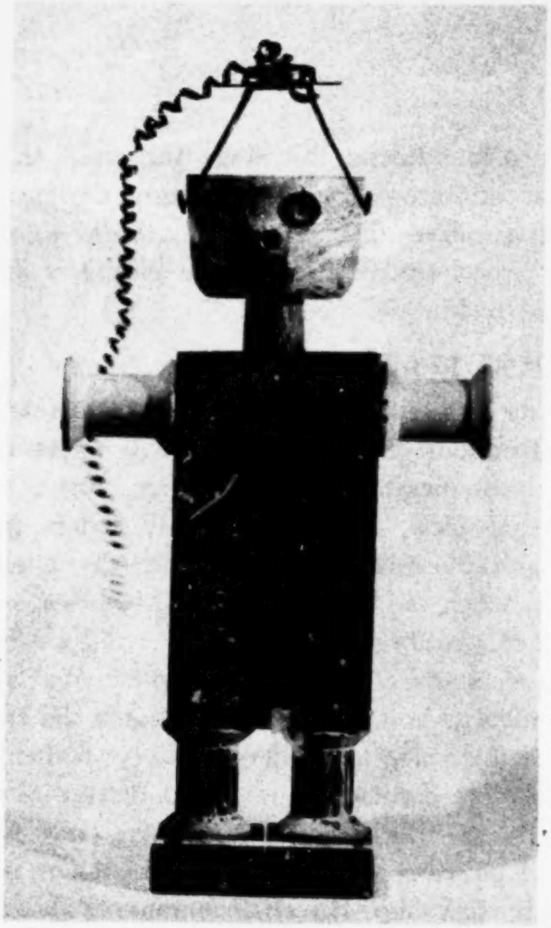
Elementary and Secondary

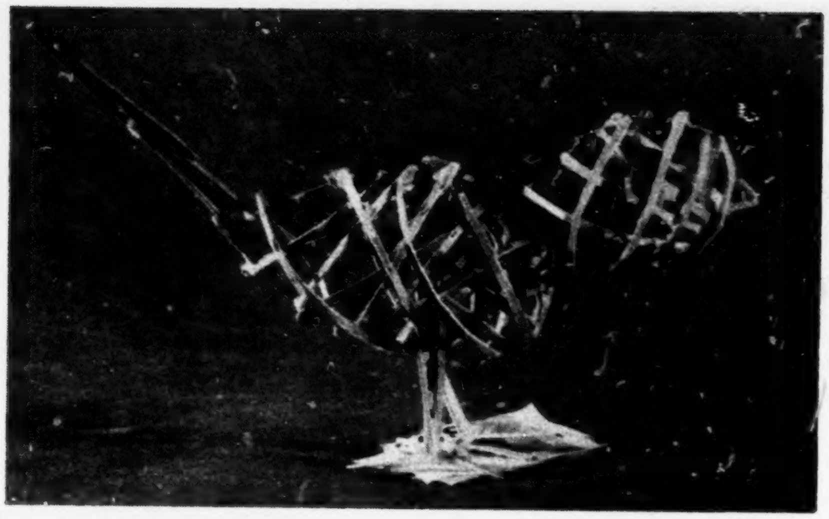
#Robertson, Seonaid M. *Creative Crafts in Educatio* Cambridge, Massachusetts: Robert Bentley, Inc c1955. Chapter Four. A.A., A.

Secondary

*Design Research Team, Department of Industri Education, University of Minnesota. *Creative Desig for the IIndustrial Arts Teacher.* Dearborn, Mic igan: Ford Motor Company. A.

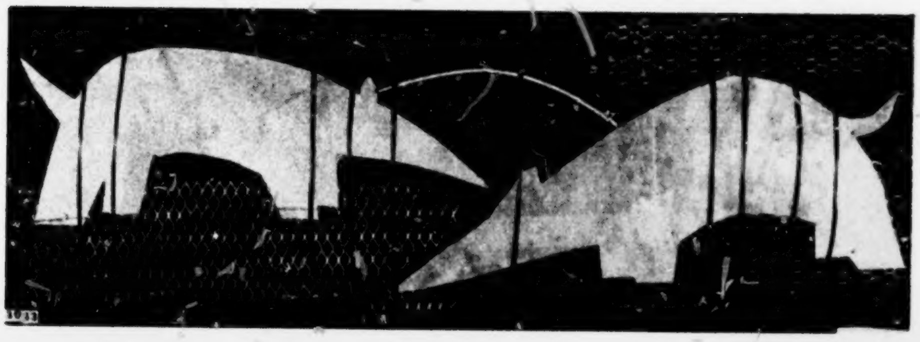
Smith, Janet K. *A Manual of Design.* New Yor Reinhold Publishing Corporation, c1950. Pages and 13. L.



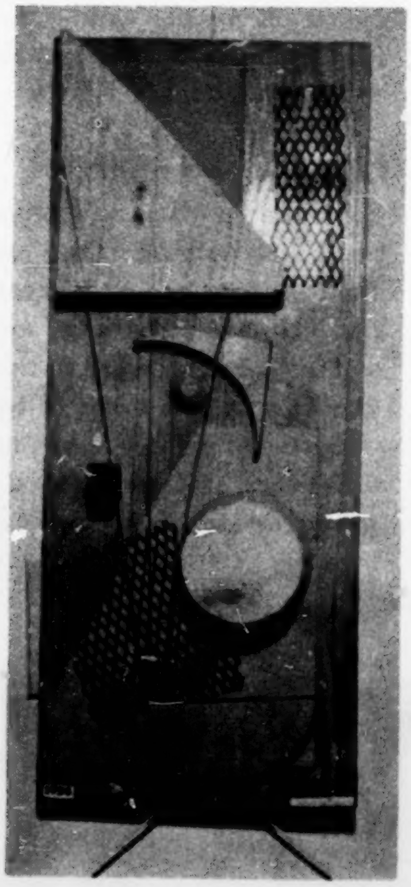


Match Construction—Age 12

Construction—Age 8



Design with Metal—Age 14



Design with Wood and Metal—Age 13

WOODWORK

Children enjoy working with wood and should have this experience in Kindergarten and all grades through sixth. Students in Grades 7-12 have woodwork in vocational courses.

VALUES

Working with wood:

Provides a familiar material for working in three dimensions.

Enables children to work with familiar tools.

Develops appreciation for houses, furniture and other articles of wood seen in everyday life.

DEVELOPMENT OF CREATIVE GROWTH

MANIPULATIVE STAGE

Children in the elementary school who first approach wood construction go through a period of manipulation. They need to get acquainted with the tools and the material. At first children will simply saw big pieces into small ones or pound these pieces together or they will take a length or chunk of wood and pound nails into it. The product of this stage is less important than the experience. At this time it is important for the teacher to give help in the correct use of tools and suggestions for safety. She will also need to clamp the wood to the bench before the child saws, using vises or clamps for holding wood. Other than that, it is desirable to stay out of the child's way.

EXPRESSION IN FORM

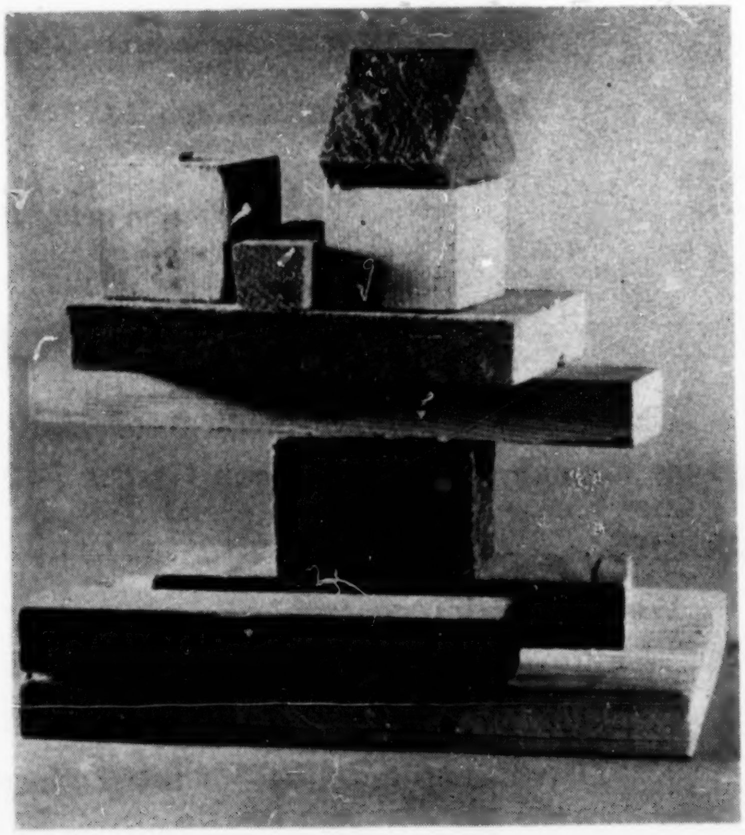
Soon the children will begin to work with a more conscious purpose. They will find pieces of wood that fit together and occasionally saw a piece to fit. They will continue to try out tools that are available such as drills, rasps and files. A teacher can help at this stage in teaching the technique of using tools: holding a hammer and nailing from the underside; standing behind saw when sawing and trying to use steady pressure.

Expression in Form—Age 5

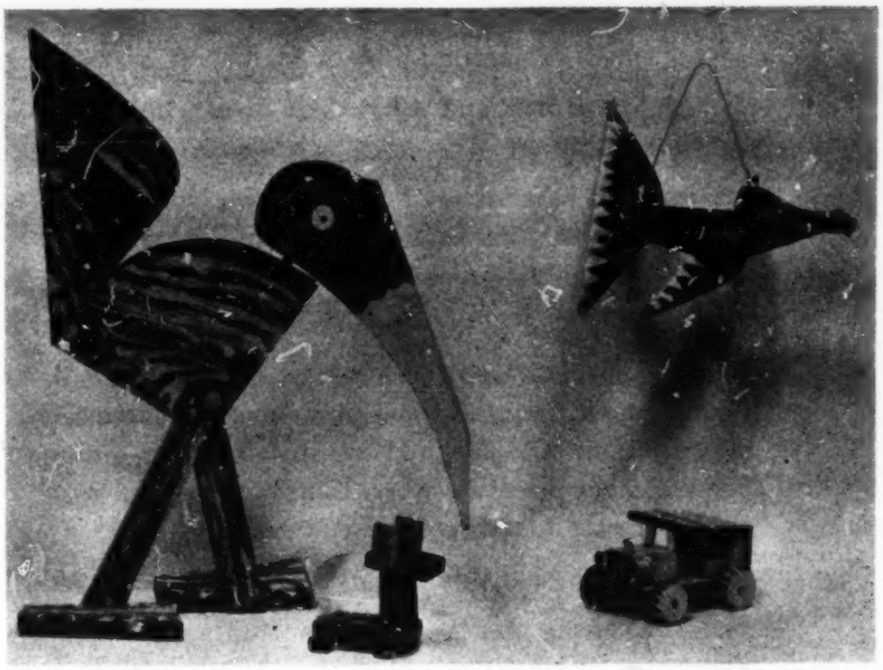
Very often during this stage the child enjoys gluing wood scraps together to form designs. Having once acquired this skill he continues to use it in later wood construction where gluing is an appropriate technique.

SYMBOLIC STAGE

During this stage, children will begin to name their constructions. Sometimes they will name them before they begin, sometimes after. From an adult point of view, the constructions seldom have any recognizable relationship to the article named. However, when a child explains his woodwork, the teacher can begin through the child's eyes to see how elements in the object express what the child intended or how it inspired the name the child gave it. At this stage a teacher can begin to help a child work more consciously toward a desired effect. One way to do this is to talk with the child about his work, pointing out the best elements in it. Ignore the shortcomings. If a child announces ahead of time what he wants to do, a teacher might help him select wood pieces or bring out a box of special materials of odd sizes and shapes from which he may select. The teacher should continue to teach special wood techniques of sawing and pounding correctly. The child may wish to finish a piece by sanding or painting.



Symbolic Stage—Age 5



Early Expressive Stage: Animal—Age 5; Birds—Age 8
Expressive Stage: Automobile—Age 8

EARLY EXPRESSIVE STAGE
EXPRESSIVE STAGE

By this time the child has acquired some skill in handling tools and will begin to make a conscious effort to make something which resembles reality. Boats, wagons, airplanes, guns, tables, chairs and beds are typical of this period. A child will take care in choosing his wood with a critical eye before he begins. He can gradually learn to measure, saw along a line and finish his construction by sanding. In other words, he begins to hold up a standard of good workmanship for himself. This does not mean that his product is perfect and true. He may slip off the line while sawing and need to rasp or plane a bit. Nails bend, wheels wobble, wood splits, the table shakes. During this period a teacher's biggest role is to help a child achieve good workmanship and to acquire new skills without becoming discouraged or dissatisfied with what he is doing.

EXPRESSIVE STAGE

At this stage the child's own planning becomes better organized, his interest more sustained, and he begins to show a desire for more finished products. When the individual child himself feels a need, the teacher must sense this and give help in specific skills needed.

EQUIPMENT AND MATERIALS

- Wood
  - Scrap lumber soft, 3/4" plywood, odd shapes and pieces of various sizes
  - Chunks and slabs: Boxes that can be split up, not less than 3/8" thick
  - Doweling: sizes corresponding to bits and larger
  - Cigar boxes or other thin wood
  - Spools and button molds, wood
- Paint and stains
  - Rubber base paint
  - Enamel
  - Varnish
  - Shellac
  - Stains: walnut, mahogany
- Wire
- Materials for decorating
  - Leather scraps
  - Collage materials
  - Roofing caps
  - Wheels
- Containers
  - Low, wide-mouthed glass jars or tuna cans for nails, screws and other small items
- Paint brushes
- Nails, screws, bolts
  - Nails, No. 8, No. 6, No. 4
  - Brads
  - Tacks
  - Washers
  - Screws
  - Cotter pins
  - Hinges
  - Screw eyes
  - Hooks
  - Wing bolts
- Tools
  - Miter box
  - Crosscut saw
  - Ripsaw
  - Hack saw
  - Coping saw
  - Keyhole saw
  - Clobber hammer
  - Claw hammer
  - Wooden mallet
  - Rasp
  - File
  - Plane
  - Chisel
  - Screw Driver
  - Pliers, combination
  - Clamps
  - Vise
  - Rulers and squares
  - Brace & bit with set of bits
  - Hand drill with set of bits
- Work areas and other equipment
  - Counter sink
  - Work bench
  - Individual sawing bench
  - Strong old tables or benches
  - Strong boxes as typewriter or adding machine boxes
  - Rack for tools

CARE AND STORAGE OF TOOLS AND MATERIALS

Tools returned to rack.
Wood and other materials returned to storage.
Tools oiled with a thin oil occasionally.
Clean brushes.

NUMBER OF CHILDREN IN ACTIVITY

The number of children working at one time depends on space, degree of self-control of the group and experience of the teacher. A small number is recommended for safety. Each teacher should begin with a small number of children, five or six, and increase the size of the group as she finds she is able to handle them. See that everyone has a chance to work with tools.

SUGGESTIONS

Show each child how to hold and use each tool when he is ready to use it.

Protect tables with newspapers before gluing or painting.

Spread glue thinly and evenly and keep pieces under pressure until set.

Wrap sandpaper around a block for smooth sanding.

Let children plan and solve their own problems as much as possible.

Results will be crude at first and some children will progress faster than others. Skills will be developed as children gain in experience.

The teacher will guide when necessary.

Kindergarten, Grades 1 and 2 enjoy building animals, birds, people, airplanes, wagons, houses, imaginary constructions and abstract constructions by gluing scrap lumber pieces together. Later on they will wish to nail pieces together so appendages will move.

Drill holes for nails or brass fasteners.

Brass fasteners may be used for attaching tongue depressors or very thin wood after holes are drilled.

Attach a washer with nail which allows enough leeway so a part may move. Nail and/or glue parts that do not move.

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A.A. — Honolulu Academy of Arts, Educational Department
A.D. — Studio of the Art Director

BOOKS

Elementary

Grade Levels

K-6

**Art in the Elementary School: Curriculum Bulletin No. Two,* 1951-1952. New York: Board of Education, City of New York. A.A., A.D.

*Crocker, Constance Homer. *Let's Build.* Boston, Massachusetts: Houghton Mifflin Company, c1944. L.H.

Lewis, Roger. *Woodworking.* New York: Alfred A. Knopf, c1952. Pages 2-23. A.D.

#Schultz, Harold A. and Shores, J. Harlan. *Art in the Elementary School.* Urbana, Illinois: University of Illinois, Office of Publication, c1948. Pages 27-29.

4-6

Bassett, Kendall T.; Thurman, Arthur B. and D'Amico, Victor. *How to Make Objects of Wood.* New York: Simon and Schuster, c1951. Pages 43-51. A.A.

Horton, Winifred M. *Wooden Toy-Making.* Peoria, Illinois: The Manual Arts Press, c1943. L.H.

Maginley, C. J. *Toymaker's Book.* New York: Harcourt Brace and Company, c1948. L.H.

CERAMICS

The art of creating decorative and functional forms in clay is one of the oldest arts known to man. Clay is one of the useful materials furnished by nature and it can be found in Hawaii. The art of working with clay was practiced by early civilizations surrounding the Mediterranean as well as Indian civilizations in Mexico and South America.

There is also evidence of clay used as a building media by people who lived in prehistoric times. A crude potter's wheel and well shaped pots have been discovered, calculated to date back to 4000 B.C.

China, whose civilization was highly developed when Europe was in its infancy, produced ceramics and pottery that date back to prehistoric times. The Chinese potters developed the craft to a fine art. When their work was made known to Europeans through the early explorers who brought back examples to their homelands, it had a marked influence on the development of the craft in Europe. These Chinese potters also influenced the early pottery of Korea and Japan. Thus, throughout any known form of civilization, pottery has functioned as an integral part of the life of the people who made up that civilization.

VALUES

Forming objects of clay:

- Presents a challenge to groups of all ages.
- Develops thinking in three dimensions.
- Offers the opportunity to make an article for personal use or for a gift.

DEVELOPMENT OF CREATIVE GROWTH

The stage of the development depends on the child's maturity and experience with clay, not on age or grade level. Consequently, many stages may be found in any one group.

MANIPULATIVE STAGE

All children respond naturally to the plastic quality of clay. Normal reactions in getting acquainted with the feel and plasticity of clay are squeezing, rolling, twisting, pushing, patting and poking. If given clay with no instructions, people of all ages will react in this way.

Manipulative Stage—Age 3

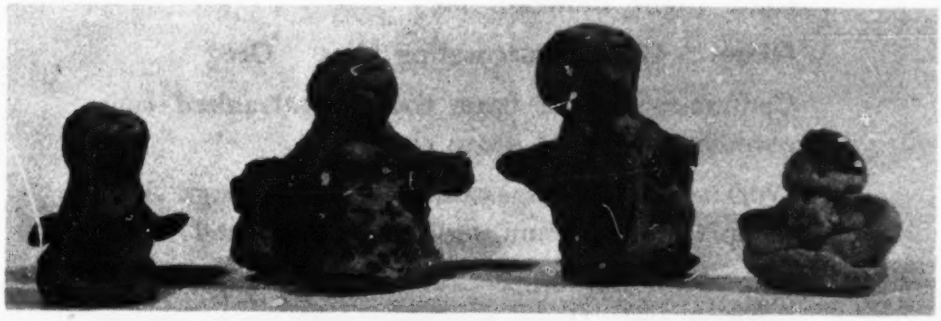
SYMBOLIC STAGE

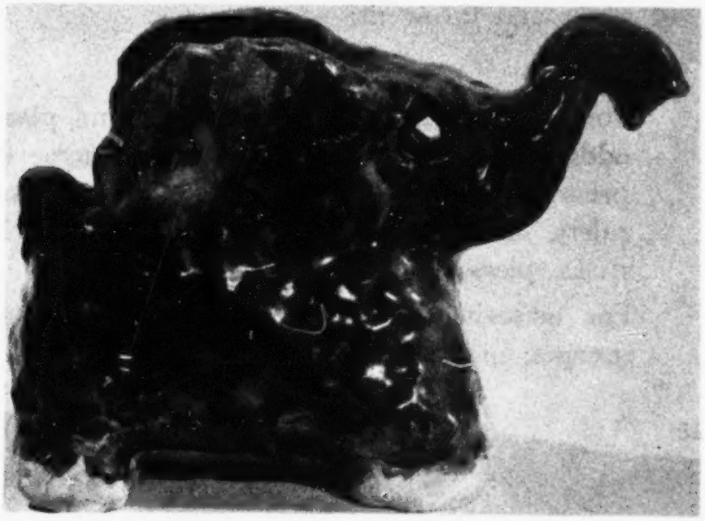
In the second stage, the child develops forms that are symbolic of things found in his own experience. These modeled symbols are the child's own concepts and he should be allowed to express them in his own way. A child at this stage of development should have many opportunities to experiment with clay. There is value to the child though the activity is temporary. Gradually the child is helped through guidance to see that there are ways of working with clay so objects stay together and can be fired.

EARLY EXPRESSIVE

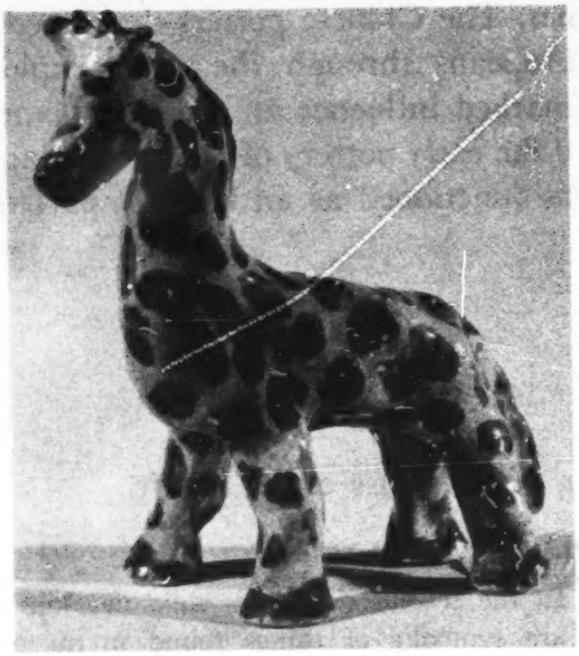
The child forms more realistic symbols as a result of increased observation of things in the world about him.

Symbolic Stage—Ages 5 & 6





Early Expressive Stage—Age 7



Expressive Stage—Age 10

EXPRESSIVE

As he gains in knowledge and sensitivity, the child or older pupil works more critically and shows greater interest in the expression of the piece and in the various processes needed for completion.

EQUIPMENT AND MATERIALS

Clay: white, gray, buff (light dull yellow) and terra cotta (light brownish red)

Glazes   Colored decorating slips   Grog

Containers: plastic bags, covered galvanized cans, covered crocks and damp cloths

Working surfaces: masonite, oil cloth (rough side), damp cloth, linoleum, asphalt tiles or wood

Sink with clay trap. Clay will clog pipes of an ordinary sink. If not available, wash up in buckets of water and throw the water outside.

Tools

For incising and impressing: metal and plastic odds and ends, wood, cuticle sticks, tongue depressors, forks, bottle tops, combs, pencils, erasers, rulers, scissors, knives, spools, nails, milk nickel sticks, pieces of rope, spoons, chopsticks

For texturing: burlap, wire screen, dish cloth, sponges, orange or onion bags.

For scraping or carving: hair pin or bobby pin bent in an oval or triangular shape and attached to a chopstick or similar stick with scotch tape or fine wire; fettling knives, paring or old dinner knives

Banding wire that comes on packing cases may also be used wide or cut narrower with metal shears. File edges and attach to stick.

For decorating and glazing: soft-haired brushes, bamboo, water-color or glaze brushes round and flat of various sizes, (large brushes for large areas and small brushes for details)

For trailing: plastic trailers, the smallest size ear syringes or a balloon attached to a medicine dropper with a rubber band

Common pins to check glaze thickness

KINDS OF CLAY WARE

Greenware
  Moist and plastic
  Leather-hard, damp but not plastic
  Dry, not colder than room temperature, tested by holding to cheek

Bisque ware or (biscuit) ware
  Unglazed or slip decorated pieces fired once

Glazed ware
  Bisque fired pieces that have been glazed or dry greenware that has been glazed

Fired ware
  Either fired glazed ware or bisque

SUGGESTIONS

Let children experiment. Give pupils at all age levels time for manipulation of clay. By experimenting they will discover the plastic quality of clay. Encourage each child to work in his own way by developing his own techniques and imagination. **Commercial molds should not be used.**

Wood, cardboard and papier-mâché are more suitable material than clay for cars, boats, airplanes, wagons, tepees and buildings.

Plasticine is an artificial substitute for clay and is not recommended for regular clay activities. It is suitable as a foundation for masks and hollow papier-mâché objects. Refer to section on Papier-mâché. It is also intended for use in making models which will be cast later in cement, plaster or metal.

Clay dries very quickly while the children are working with it in a warm climate. Provide a small container of water for mending cracks that cannot be eliminated with the fingers. The top of the finger should be dipped in the water and applied to the crack only. It may be necessary to add thick slip or soft clay. Avoid excessive use of water during modeling process. Avoid folding clay over. It causes air pockets.

If clay is too soft for modeling, roll on cloth, plaster bat or board. If too hard, the clay must be moistened and wrapped in a very damp cloth. Then set aside until it is plastic enough for modeling. See Care of Clay.

Extra clay covered by a damp cloth should be available at the supply table. At the pupil's place the extra clay should also be covered with a damp cloth.

Sometimes it is necessary to prop pieces. A piece of clay or crumpled paper such as newspaper or paper toweling may be placed under the body if legs are sinking down or it may be placed to support a long neck. This is removed when the object is leather-hard (damp but no longer plastic).

Horns, tails and ears should be thick. Long appendages may be braced against the body for support.

Sculpture is given character and expression by bending or turning bodies, heads, arms or legs. Sometimes pupils prefer the figures straight.

Bevel or round the sharp edges or points with wet finger or damp sponge.

Check each piece to see that sections are properly joined.

Ceramic sculpture, excepting very small pieces, should have an opening from the base made with a tool to aid in equal drying and to prevent the piece from exploding in the kiln.

Scratch name and identification on bottom of each piece while still damp and under the cover of a pot with a separate cover.

Dry clay pieces slowly in cupboards or under cover away from sun and wind to keep them from cracking. Drying takes two to three weeks depending on the weather conditions.

If appendages break before the piece is fired, dampen both parts with a wet rag for several hours and join. An adhesive may be used for joining pieces of dry greenware or fired ware. This adhesive may be purchased at a ceramics supply house.

Children should learn the entire process of forming and glazing clay objects.

Painting clay pieces instead of glazing, defeats the original purpose. If things are to be painted, they should be made of other materials such as paper, cardboard, papier-mâché and wood.

Each pupil should have at least one piece fired during the year.

In using clay over and over again, it is important to keep foreign matter out of it such as sticks, plaster of Paris, paper and paper clips. If such things remain in the clay, the object may shatter when eventually fired. Plaster will come out later even after firing and spoil to piece.

PREPARATION AND CARE OF CLAY

Clay may be purchased dry or moist.

Pugged and wedged moist clay comes in plastic bags and is ready for use. Keep in a cool place.

Dry clay is prepared as follows:

Add dry clay to the water until the mixture is the consistency of thick molasses. Cover with wire screen or cheesecloth to keep out foreign particles. Stir occasionally.

Allow water to evaporate. This conditioning takes a week or more.

Then the clay can be lifted out onto plaster bats or boards for further evaporation. Wedge to remove air bubbles. See Wedging.

Grog may be added to dry or moist clay for texture, strength or to reduce shrinkage. Grog is clay fired hard and ground to various consistencies from fine to coarse. It may be added from 5% to 50% in proportion to clay for pottery and for sculpture.

CLAY THAT HAS LOST ITS PLASTICITY, BUT IS NOT DRY

Make a hole in a ball of clay and add water. Stack balls of clay, water side up, in a covered container.

When it reaches a state of plasticity, knead the clay to get even consistency.

Wedge to remove air bubbles. See Wedging.

Form into balls or cubes and store in covered container or plastic bag.

RECONDITIONING DRIED GREENWARE

Proceed as for preparation of dry clay.

Break up and cover with water in container. Let leather-hard clay dry before adding water because it dissolves faster when dry.

WEDGING

Clay must be wedged before it can be used. Wedging is a process which expels all air bubbles and gives clay an even texture throughout. If clay is properly wedged, no air pockets remain, thus avoiding the chance of the piece shattering in the firing. All clay should be wedged except pugged clay that comes already prepared. However, if the pugged clay is used over again, it also must be wedged.

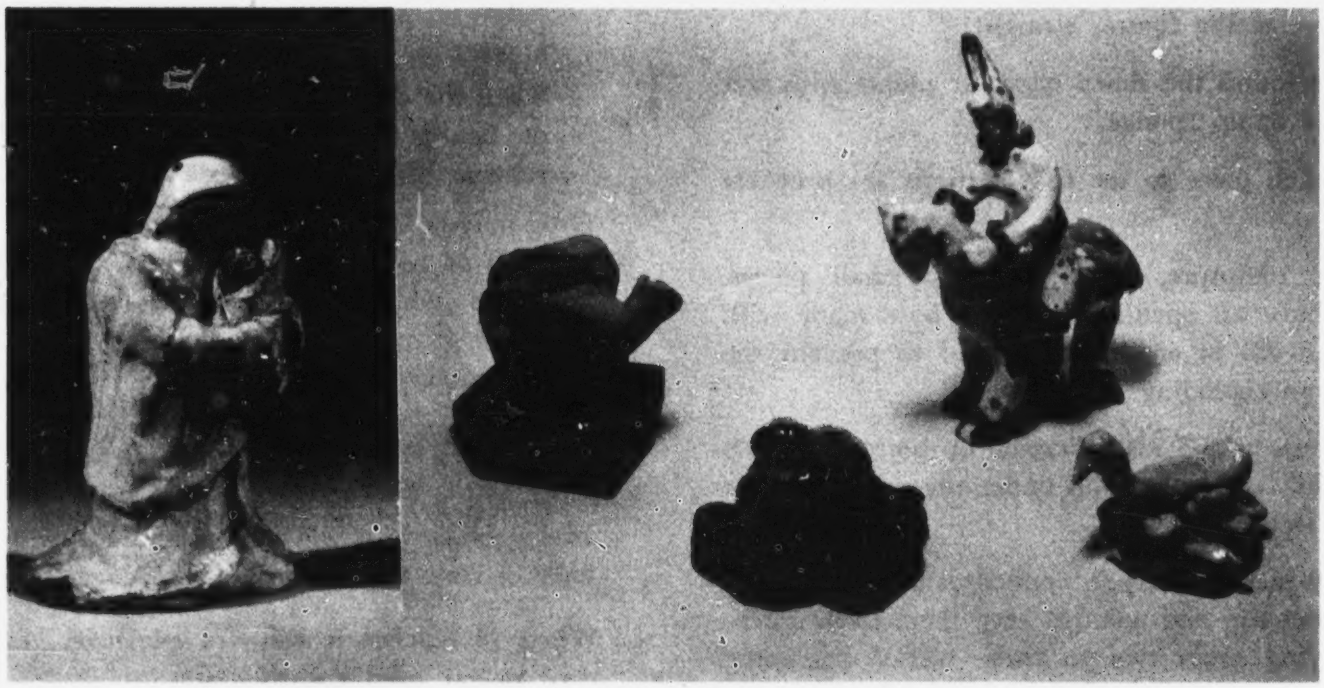
Wedging is done by pressing a lump of clay into a rectangular mass or cylinder. Twist into two pieces or cut it in two with a knife or a taut string or wire. Pound or slam the two pieces firmly together at right angles one to another onto a board or table. Make sure that the cut edges are not pounded together. It is then kneaded like dough and again pushed into a rectangular mass or cylinder. This process is repeated many times until no cracks or air bubbles show when the clay is cut.

Wedging the clay should be experienced by all children. However, it may be done by a few children before or after school for the whole group if the teacher so desires.

METHODS OF FORMING CERAMIC SCULPTURE

Encourage pupils to create simple three-dimensional forms of single figures or a group of figures or objects on a base. Subjects may be people, animals, birds, fish and abstract forms, banks, paper weights and wall placques.

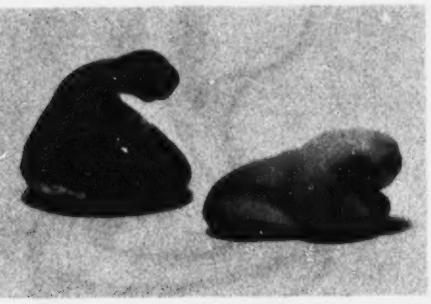
Sculpture is more interesting when there is exaggeration or simplification of a subject. An elephant may have a very large head and a small body or vice versa.



Ceramic Sculpture Ages from left to right: 16, 17, 9, 10, 5

OLDING, SQUEEZING, PUSHING ND PULLING OUT FROM A BALL R LUMP OF CLAY

No tools are necessary. Fingers are the best tools r modeling. There is less breakage with this method. Feelies" are abstract forms modeled in this way by lder students, then fired. This manipulation with no hought of realistic objects acquaints the student with he character of clay and gives confidence to the eginner.



Feelies

DDING OR REMOVING PIECES OF LAY WHILE MODELING A FIGURE R OBJECT

If clay is quite moist, pieces may be added and weld- d to the clay figure or object by smoothing back and orth with fingers at the joint. Otherwise join pieces y scoring (scratching) surfaces to be joined and then oistening with water or slip. If slip is used, it should oze out along the joint. These parts may be pressed n firmly or welded to the clay piece.

Slip for joining parts is made by adding water to ry or moist clay to the consistency of mayonnaise. This lip is referred to in all following processes.

These two methods, pulling out and adding on may e combined.

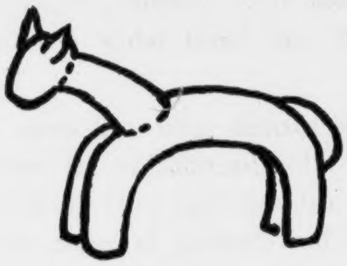
IGURES AND OBJECTS CARVED ROM A RECTANGULAR MASS OR LAY BLOCK

The clay must be plastic enough to work and yet irm enough not to squash down. The initial form is first arved with knife or tool and then may be developed urther by adding clay and by modeling. Before add- ng clay, score and add slip. Wire cutting tools may be made from bobby pins, hairpins or banding wire fastened o chopsticks with fine wire. Cover wire with scotch r masking tape.

Leather-hard clay blocks may also be carved. Refer o section on Sculpture—Carving.

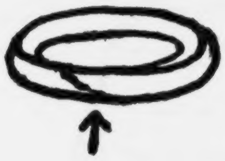
COIL METHODS FOR SCULPTURE

A coil is a clay "sausage" made by rolling a cylinder of clay to the desired thickness. Use fingers with light pressure to keep an even thickness. Roll on a clean damp table top or board. See photographs for forming a coil under Pottery.

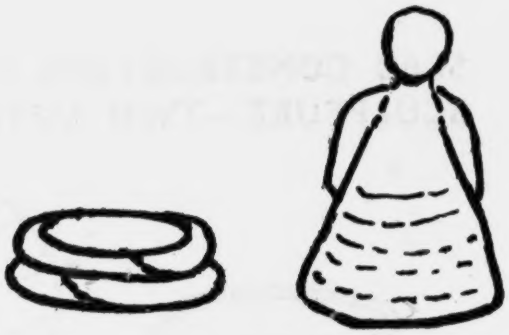


Coil sculpture

1. Small decorative sculpture may be made by joining coils. The two coils used for body and legs are pressed and welded together for the body. The ends of the coils will be the legs. The head may be a piece of coil or a ball. Tails, necks and ears may be joined to the body by scoring, adding slip and welding. After all parts are joined, bend as desired. Encourage pupils to create animals and people in original ways with coils.



Joint



Coil figure

2. Heads of people, animals, figures with long skirts or robes may be built "from the ground up" with coils placed one above another as in coil pottery. The objects will be hollow. The coil at the bottom should be thickest because it supports the piece. The rest of the coils should be of uniform thickness. Be sure clay is firm enough so the coils will not squash down. If too soft, put aside without covering to firm a little. Join two ends of coil by cutting slantwise and welding.

Score top of first coil. Add second coil on top of first, welding coils together first inside and then outside by pushing small amounts of clay back and forth with finger or tool until the joint is completely closed. A round eraser on the end of a pencil is a good tool. **Do not pinch wall between thumb and fingers.** Have joined ends of coils come at different places in the wall of figure, not one over another. Support inside of wall with fingers of one hand while working outside and vice versa.

Repeat this process one coil over another as far as desired for the foundation. If necessary to stop working, place a damp (not wet) cloth over piece. Keep cloth damp. When starting in again, score top of coil, moisten with water or slip only if necessary, depending on plasticity of the clay, then add fresh coil. Weld as before.

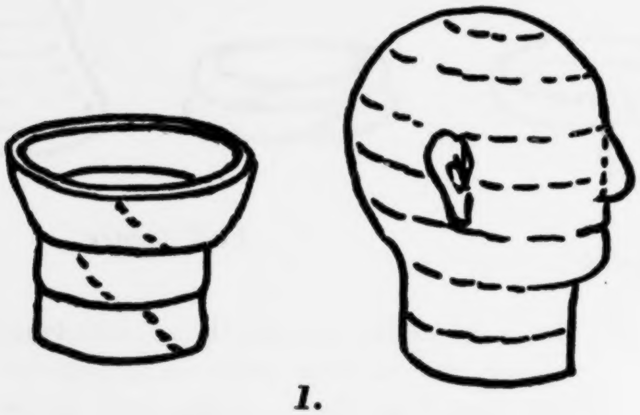
To make the form expand outward, make a longer coil and add to the outer edge of piece. Weld. Repeat as desired for shape.

To draw the form in, make a shorter coil and place on inner edge of piece. Weld. Continue by adding coils until the top is closed.

Add extra clay and model for nose, ears, hair or any other projection.

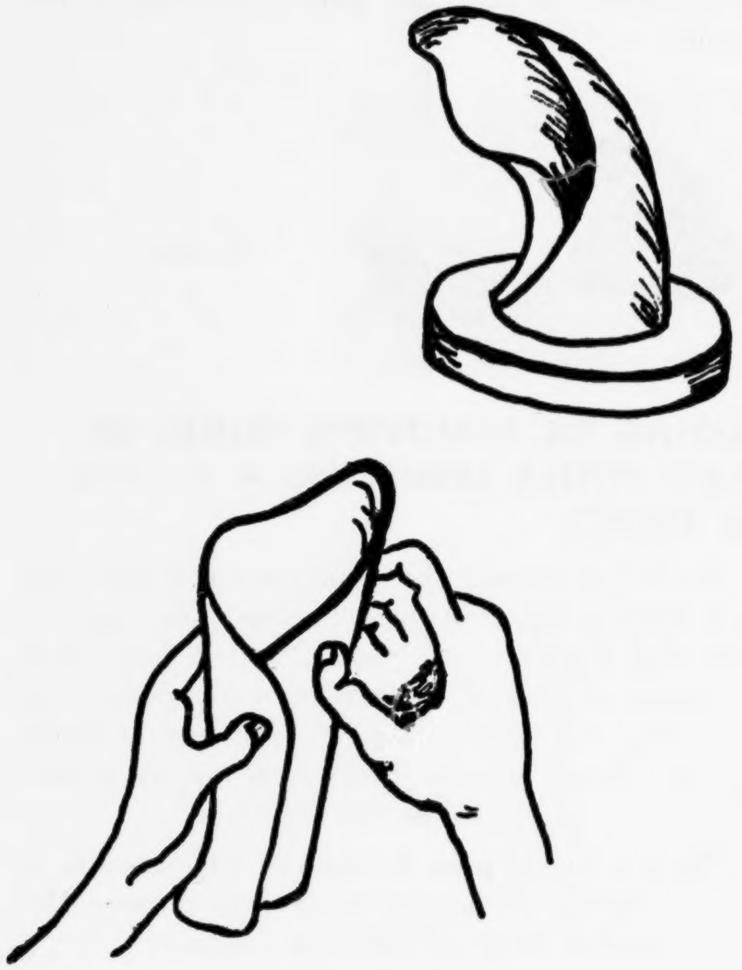
Be sure to score and add slip before adding fresh clay.

SLAB CONSTRUCTION FOR SCULPTURE—TWO METHODS



1.

1. Hollow pieces as in hollow coil construction may be made with strips cut from a slab of clay. Slab should be 3/8" or more in thickness. Cut strips with dull tool. Weld each strip to the one below by smoothing back and forth with fingers in a diagonal direction. The joints of each strip are cut diagonally. Have these joints placed at different places in the wall, not one over another. When welding strips together, be sure the wall is of uniform thickness. Support wall with fingers while working. If clay is too soft, put aside without covering to get slightly firm. When starting in again, score top of last section, add slip and fresh strip of clay.



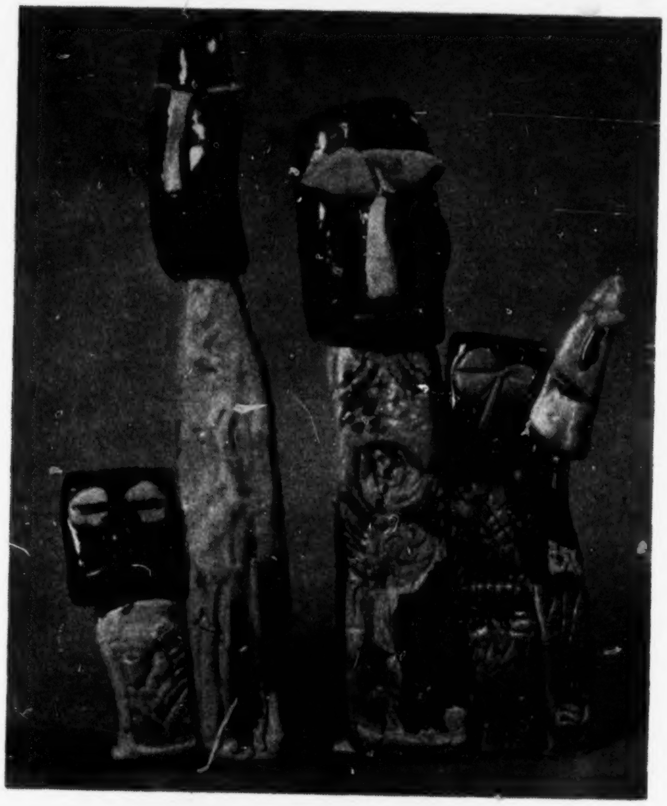
2.

2. The slab method may also be used for semi-abstract or abstract forms. Roll out the slab, add grog, knead and wedge. Roll slab again and let it dry until it will stand. Design and cut the desired shape. Form the sculpture with the hands. If it needs an armature, use a dowel set in a piece of wood. When the sculpture is finished and firm, remove it from the armature.

Oxides may be added for color beforehand to white clay if desired. Buff and red clay do not need any color. Or the sculpture may be painted when finished with copper or manganese dioxide for black, chrome oxide for green or cobalt for blue. One color is usually more successful.

SCULPTURE COMBINING SLAB, BLOCK, BALL, COIL OR MODELED PARTS

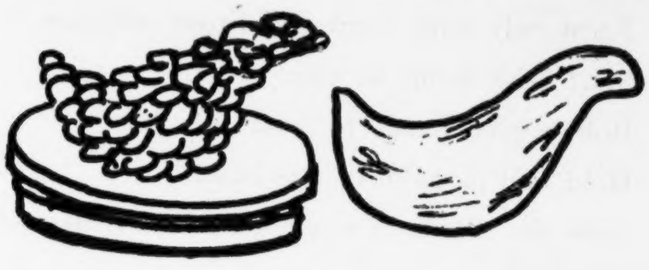
These figures encourage imagination and may be abstract or adapted from real objects. The idea may be from human and animal forms, birds, sea life or other forms. Use slab for hollow parts and block, ball or coil for solid parts. Score, join parts with slip and press together.



Combining Methods—Age 17

BUILT UP CLAY SCULPTURE— GRADES 7-12

A clay sculpture may be built up by adding rather small pieces of clay one over another until the final design is formed. In this method **do not push, pull or smooth the clay.** Work on a small modeling wheel, a piece of masonite or a board which can be turned instead of handling the sculpture too often. Turn while building, keeping the three-dimensional form in mind.

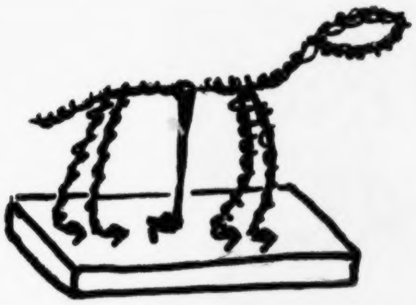


Built up sculpture

First build up a center core as high and thick as needed for the design, with a knife. Then apply the clay pieces with the knife over the core, pressing only enough so they adhere. When nearing completion, apply smaller pieces of clay with a wooden clay modeling tool. Work carefully so few changes will need to be made. For a change or to correct a mistake, take off more than is necessary and start building again.

Oxides may also be added to white clay for color. However, some designs are better white. Buff and red clay have their own beauty with no other color necessary. Glaze or colored slip added to the surface when the sculpture is completed is usually not good because the texture and modeling are impaired. Add the color to dry or moist clay at the same time with the grog if grog is needed. Chrome oxide fires to green, cobalt to blue, copper and manganese dioxide to black.

Grog may be added to the clay to stiffen it or for texture. The grog can be added to dry or moist clay, mixed and wedged beforehand.



Armature

Armatures for large clay sculpture are foundations made of noncorroding wire fastened to a wood base. Use armatures only when absolutely necessary.

METHODS OF FORMING CERAMIC POTTERY

The younger children will develop their own techniques. Help them to see that pinching clay too thin causes it to crack.

Pottery may include dishes, bowls, flower pots, mugs, tiles, ash trays, candlesticks, vases, cups, whistles, bells and boxes with covers.

PINCH POT

Form only with hand and finger pressure.

Start with lump of clay.

Roll betwen hands to form a ball.

Hold ball in palm of one hand.

Press the thumb of other hand into center, keeping bottom thick.

Press the wall between thumb and fingers, rotating the ball until it forms a bowl.

Work from bottom to top, keeping an even pressure so the wall will be of uniform thickness **all the way to the top.**

The wall gradually thins and the bowl enlarges.

If cracks appear, moisten with damp sponge or wet finger, but use water sparingly.

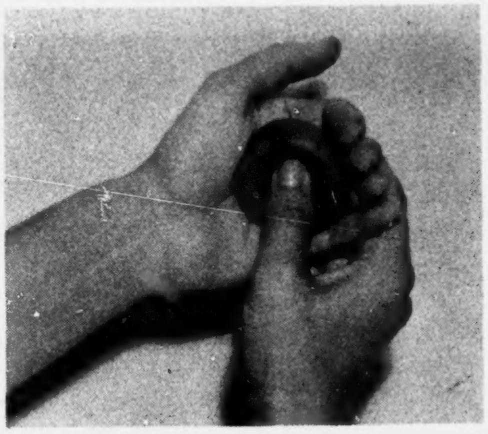
Drop gently on table to flatten bottom of pot.

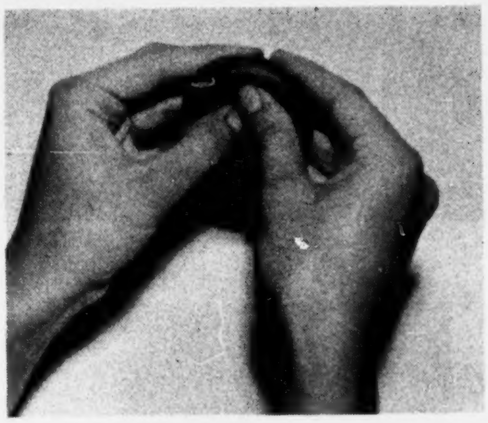
Leave rim uneven or trim with knife when clay is firm.

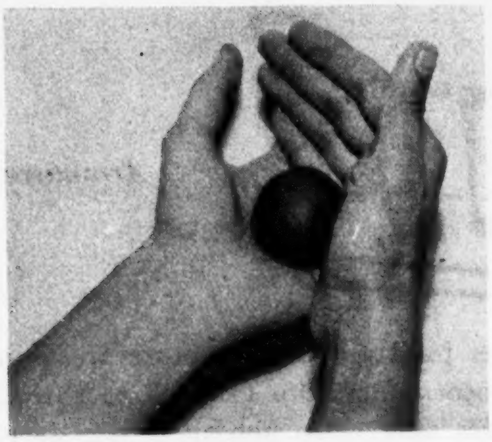
Round the top edge or rim with damp sponge.

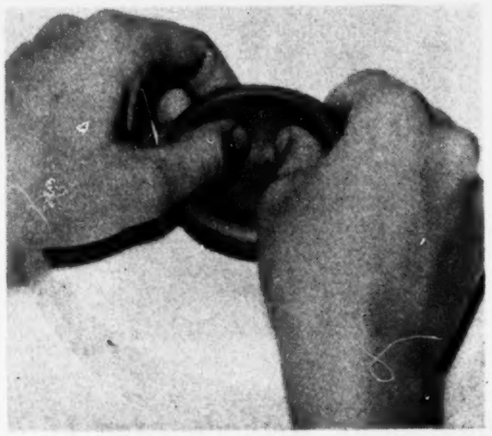
Experiment with different shapes but keep forms simple. Pinch pots may be round, oval, ovoid, square, or free form, low or high.

Free form is a simple shape that is not symmetrical.









PINCH BOWL

The procedure is similar to pinch pot.

Use a larger lump of clay and work with both hands.

Work on a modeling wheel, bat, board or cloth so the bowl may be moved freely on the table as it is rotated by pulling the board, not the pot.

Press both thumbs into center.

Use a light pressure between thumbs and fingers while rotating.

Shape bowl as desired.

COIL POTTERY

Pots may be made of any size or shape. They may be round, rectangular, square, oval, ovoid or free form.

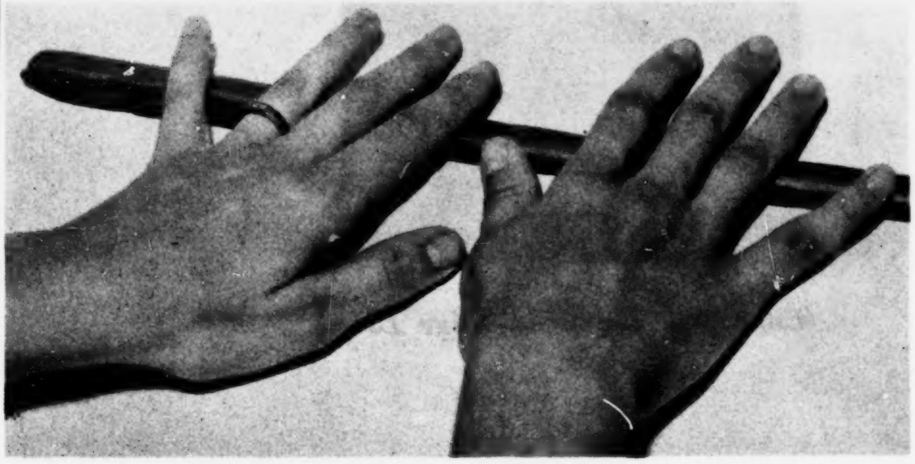
Form base either of two ways:

> Roll a lump of clay between hands to form a ball. Press ball down to form a pancake of uniform thickness. Cut base with dull tool for desired shape. Remove excess clay.
>
> Or make a slab using rolling pin and guide sticks. Cut base and remove excess clay. See Slab Construction.
>
> The base should be thicker than the wall so a foot may be made when piece is finished. See Making a Foot.

Forming Coils: Clay should be plastic but stiff enough to keep shape.

> Form clay into cigar or sausage shaped rolls. Roll on a clean damp table. Use fingers or hands with light pressure to keep an even thickness.
>
> The coils will lengthen to the desired thickness.
>
> Thickness of coils will depend on size of pot to be made. Coils should be of uniform thickness and round.

Score outer top surface of base.

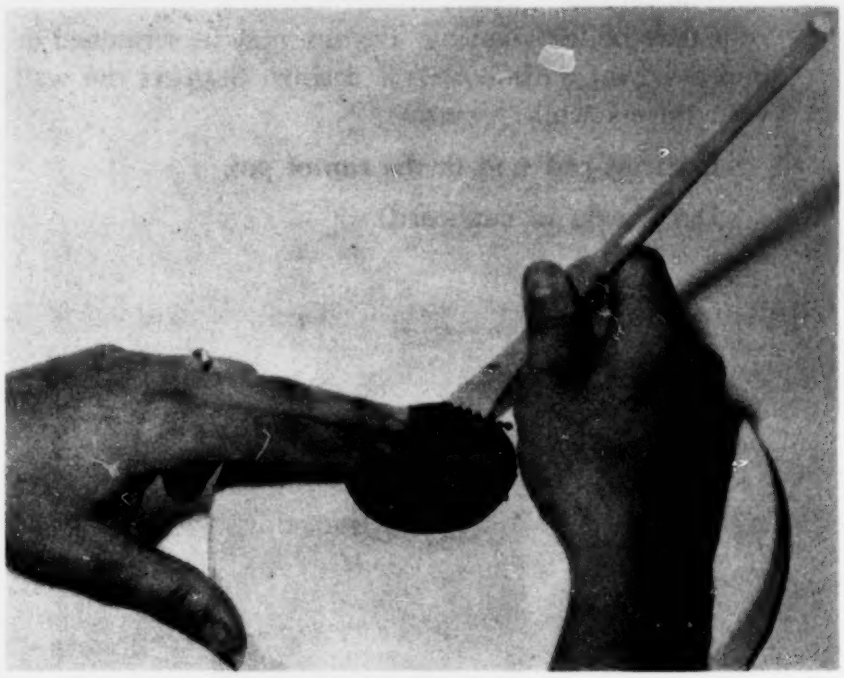


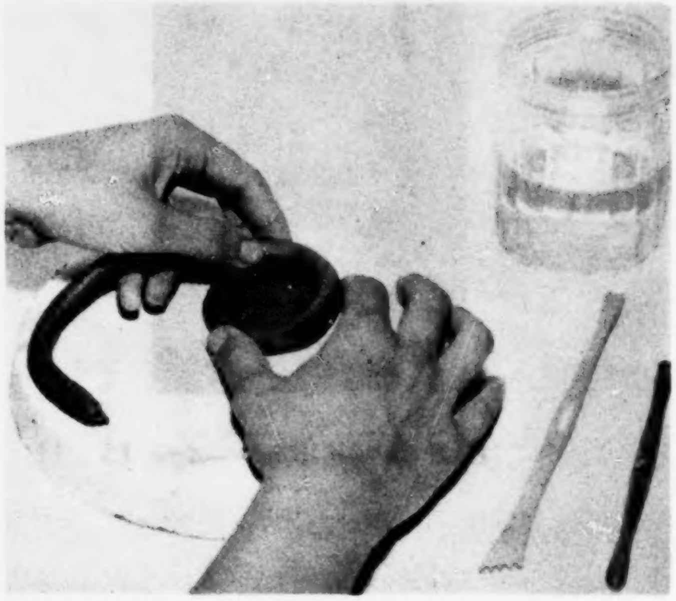
Lay first coil on scored edge, cut ends slantwise and weld the joint.

Weld coil to base first inside and then outside by pushing small amounts of clay up and down with finger or tool until the joint is completely closed. A round eraser on the end of a pencil is a good tool. **Do not pinch wall between thumb and fingers.**

Add additional coils one over another, remembering to place joined ends of coils at different places in the wall, not one over another. Be sure to score each coil before adding another.

Support inside of wall with fingers of one hand while working outside and vice versa.





If at any time the clay is too soft, put aside without covering to firm a little.

Repeat making and adding coils until desired height and shape is reached.

If necessary to stop working, place a damp (not wet) cloth over piece. Keep cloth damp.

When starting in again, score top coil, moisten with water or slip only if necessary depending on the plasticity of the clay and add a fresh coil. Weld as before.

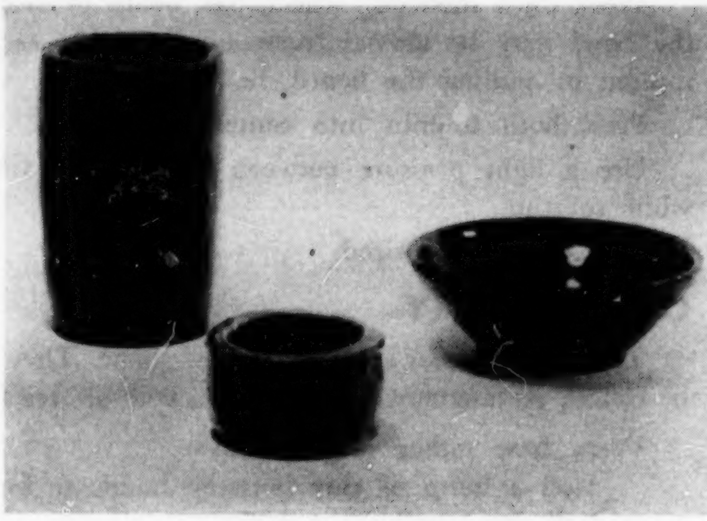
To make the form expand outward, make a longer coil and add to the outer edge of last coil.

To draw the form in, make a shorter coil and place on inner edge of last coil.

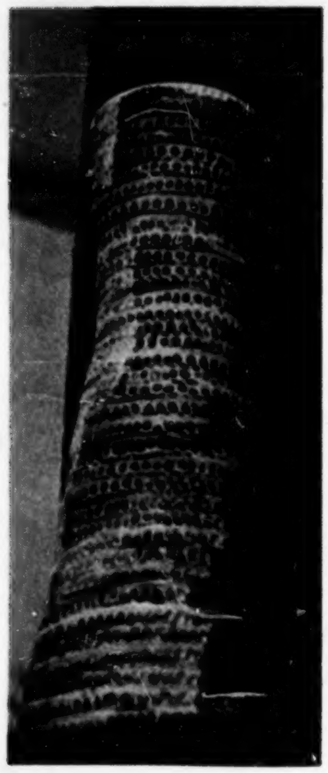
The outside surface of the wall may be smooth or coils may be left showing. Texture may be scratched or impressed on outside wall if desired. Support the wall with fingers while texturing.

Even up and smooth the rim of pot.

Dry slowly in cupboard.



From left to right: Coil Vase—Age 14; Pinch Pot—Age 8; Wheel-thrown Pot—Age 14

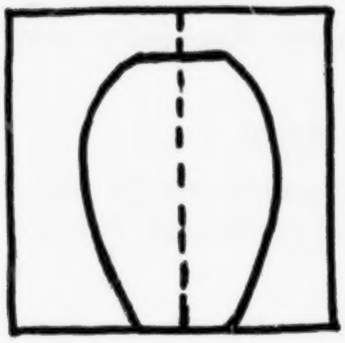


Coil Lamp Base—Age 15

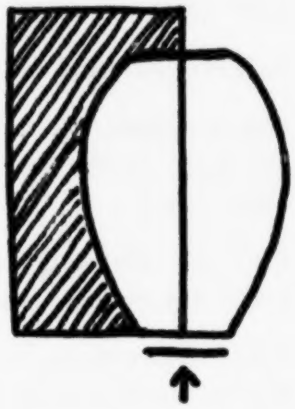
Coil Vase Textured—Age 15

MAKING A TEMPLATE FOR COIL POTTERY

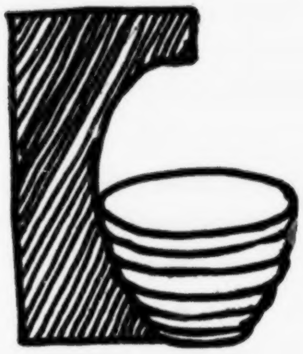
Sometimes a template or pattern is made of cardboard for a guide in making a pot of preconceived design. The pattern should be the student's own design. Make a drawing of the pot, shape and size desired.



Design on paper



Diameter of base



Cardboard template held against pot

Cut out the form and fold it down the center. Trace around this half of a shape in a corner of a piece of cardboard.

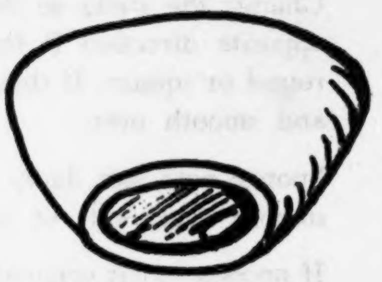
Have bottom of pattern flush with bottom of cardboard.

Cut the profile line with sharp knife or shears. Keep remaining piece for template. It is not necessary to keep too rigidy to the pattern. During building changes may be made in the original design.

MAKING A FOOT FOR A POT

A depression called a foot may be made on the bottom of pinch, coil, slab or wheel-thrown pottery.

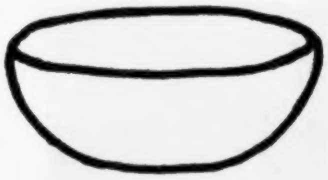
When leather-hard (damp but not dry) and firm enough to handle, turn pot upside down. With a dull tool draw a circle, oval or whatever shape the pot is, parallel to the edge of base. Leave a rim wide enough to support pot. Make a depression by removing clay 1/8" deep. For large pots, the depression will be deeper. Round the edges with a damp sponge.



Foot depression

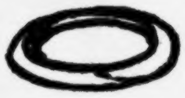
A foot may also be made by rolling a coil, scoring and joining to the bottom with slip. Weld and flatten coil, thickness depending on size of pot.

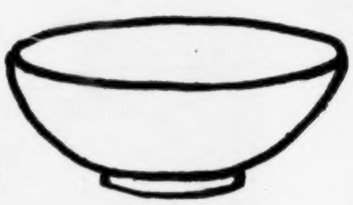
Legs, balls or slabs may be used for feet.



Bowl

Coil





Foot from coil

SLAB CONSTRUCTION

The slab method is used for sculpture, tiles, boxes, wall plaques, flat-sided pottery, slab plates and some kinds of jewelry.

EQUIPMENT AND MATERIALS

Oil cloth (rough side), rubber sheeting or damp cloth, board

Rolling pin, knife, soft sponge

Two guide sticks longer than clay piece to be made and as thick as the piece is desired

PROCEDURE

Stretch damp cloth on board or table and smooth out wrinkles. Cloth can be thumbtacked to a board. Place a lump of clay on cloth.

Place guide sticks on both sides of clay but close enough so that the rolling pin will always rest on sticks. This keeps the slab a uniform thickness.

Press the clay down between the sticks with hands until it is slightly higher than the sticks.

Roll the clay, starting from center as for pie dough. Roll back and forth on sticks if the piece is to be somewhat rectangular or oval.

Change the sticks so the clay can be rolled in the opposite direction if the piece is to be somewhat round or square. If there are any air bubbles, prick and smooth over.

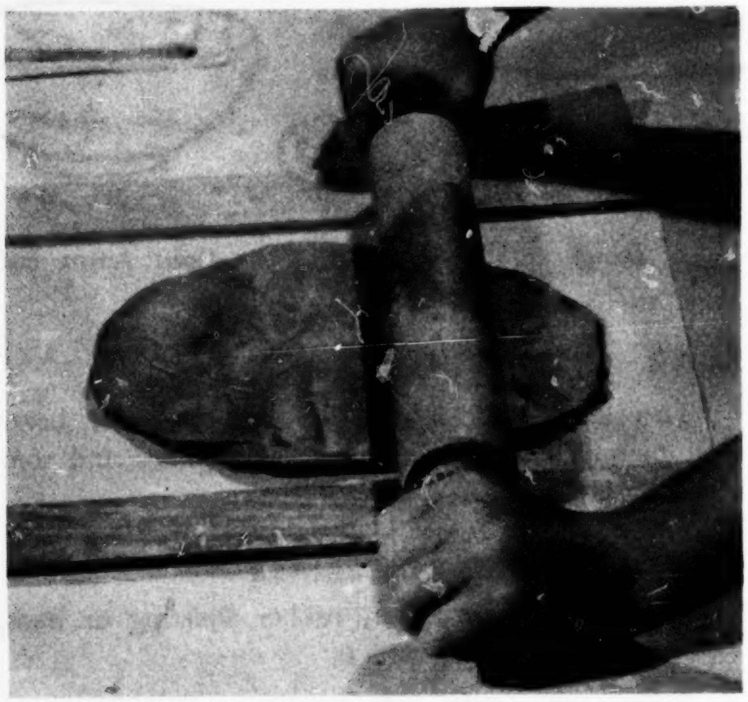
Sponge with soft damp sponge. When firm enough, smooth other side of slab.

If necessary, cut original pattern out of heavy paper or thin cardboard.

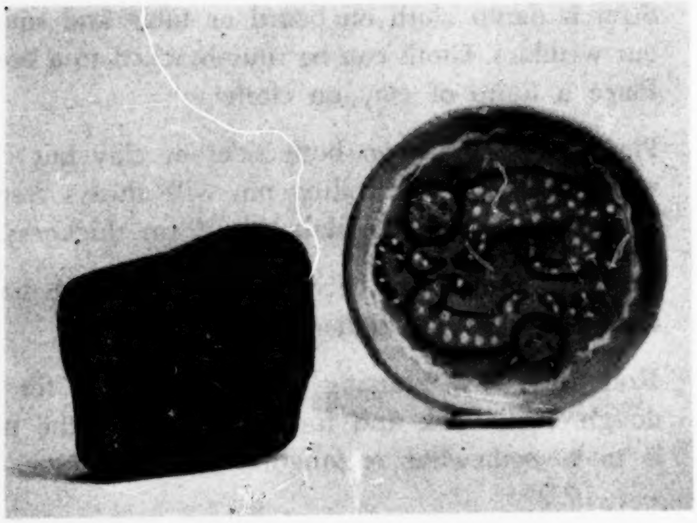
Draw free hand or trace around the original pattern on the slab of clay with a dull tool or pencil.

Cut straight down, not slantwise, to half the thickness of the slab. Then complete the cutting.

Remove excess clay.



Rolling Out a Slab



TILES

Use for hot plates, table tops, trays, book ends. Shape may be square, rectangular, oval, round, ovoid or free form.

Free form is a simple shape that is not symmetrical.

Proceed as for slab construction. Have guide sticks 1/2" thick or more.

Roll out slab and cut shape desired.

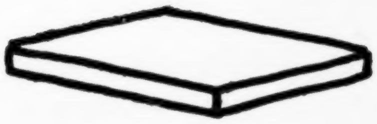
Lay a plaster bat or small board on the tile. Place one hand on the bat and pull up the cloth with the other hand.

Flip the tile and bat over so the tile is on its back. Smooth the back.

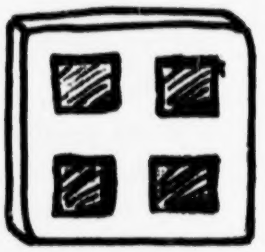
Make depressions in the back to a depth of 1/3 the thickness of the tile to keep it from warping. Put aside to dry until firm enough to handle. Scratch identification on the back. Round sharp edges with knife and damp sponge.

Dry slowly in a cupboard and turn over occasionally to avoid warping. If no cupboard is available, cover with a damp (not wet) cloth or place in a box and turn occasionally.

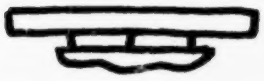
Decorate with incised line, carved relief, embossing, sgraffito, slip or glaze application. See Decorative Processes.



Tile



Depressions on back



Tile on stilt

From Left to Right: Tile with Incised and Impressed Decoration — Age 11; Slab Plate with Colored Slip Decoration—Age 12

SLAB PLATES—THREE METHODS

1. For square, rectangular, round, oval, ovoid or free form shallow plates or flower containers. Free form is a simple shape that is not symmetrical.

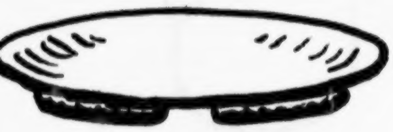
   Roll out clay. See Slab Construction.
   Guide sticks should be 3/8" thick or more depending on the overall sizes of the plate.

   Cut shape free hand or from original paper pattern placed on the clay slab. Remove excess clay.

   Let clay slab dry a little so it can be lifted from the damp cloth to a plaster bat or board.

   Roll out coils of clay and place under the edge of plate all the way around.

   Gently straighten the edge so it will not be fluted. When firm, round sharp edges with knife and damp sponge.



Coils under plate
1.

2. The plate may be suspended in a cheesecloth hammock thumbtacked to the outside of a cardboard box.

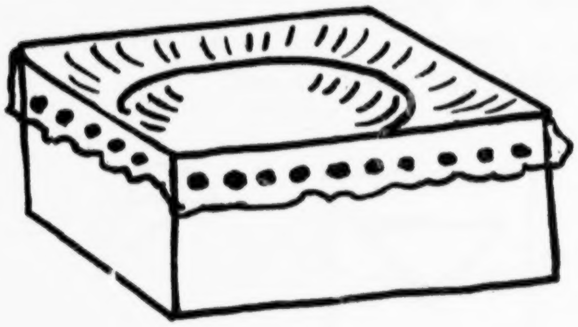
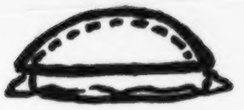


Plate in hammock
2.

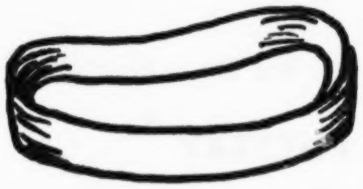
3. A slab, cut the shape desired, may be draped over an original solid clay mold, a smooth rock or a coconut with husk removed. First place damp cheesecloth, dishcloth or other cloth over the foundation, with no wrinkles. When clay is firm, remove and smooth sharp edges with knife and damp sponge.

Slab draped over stone
3.

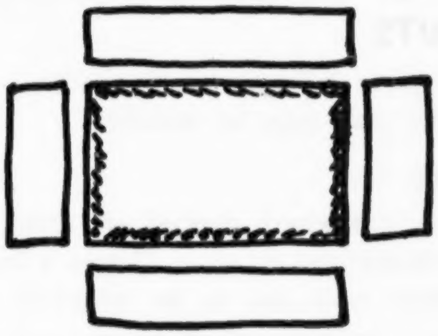


Legs may be added to any of the above using balls, thick slab or coil made to the size needed. Score, add slip and press firmly to bottom of plate while it is still damp, but firm. Dry slowly and decorate. See Decorative Processes.

SLAB POTTERY—SQUARE AND RECTANGULAR INCLUDING BOXES WITH LIDS



Free form



Bottom scored

Roll out clay. Thickness depends on size of finished object, **not too thin.** See Slab Construction.

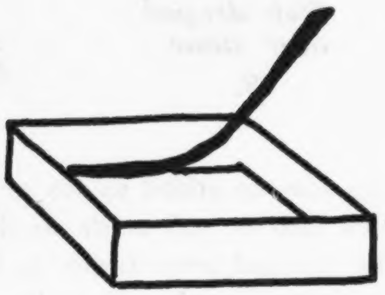
Cut the clay slab from original pattern: the sides, ends and bottom.

Cut a lid also if making a covered box. See Methods of Forming Covers.

Score and add slip to all surfaces that are to be joined. Do this as each section is added. Place walls or sides on top of base, not around it.

Or walls may be placed around the base if two opposite walls have extra length.

Join pieces firmly. Weld the joint up and down on the outside with tool or finger.



Coil added inside to strengthen joint

Add a small coil on the inside angle where wall and base meet.

Smooth coil up onto wall and down onto base with tool or finger.

When the clay piece is leather-hard, edges and corners may be rounded with a knife and sponged with a damp sponge.

Dry slowly and decorate. See Decorative Processes.

WHEEL-THROWN POTTERY

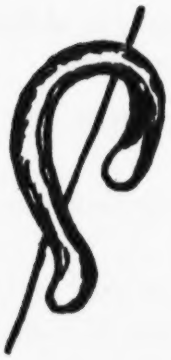
Throwing pottery on the potter's wheel requires individual instruction and cannot be described in the guide. It is recommended for secondary art classes.

METHODS OF FORMING HANDLES AND SPOUTS

When clay piece is leather-hard, handles and spouts of medium stiff clay may be attached.

Coil Handle

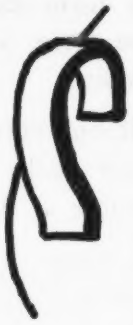
Roll coil, cut length desired and press ends between thumb and finger to flatten a little. Score pot where ends are to be attached and add slip. Press ends to scored places, weld and add a little clay around the joint to strengthen it.



Coil handle

Slab Handle

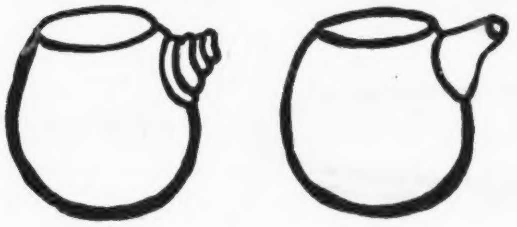
Roll out or pat down a slab of clay a little thicker than the wall of the pot. Cut the handle from this slab. Shape and join to pot after scoring and adding slip. Add a little clay at the top of each joint and weld.



Slab handle

Coiled Spout

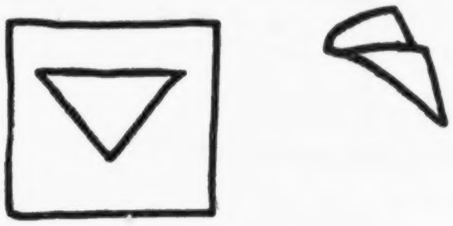
Cut a hole in pot. Form spout by adding coils one over another. See Coil Pottery. Weld coils together inside and out. Score and add slip around hole. Weld to pot. The coiled spout may also be built up directly onto the pot.



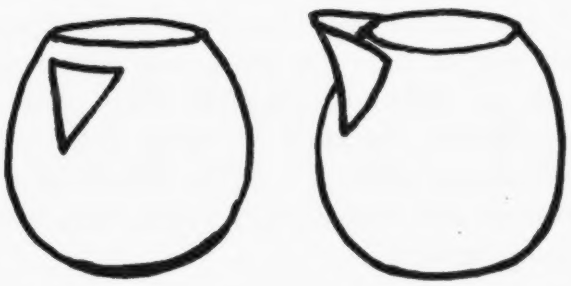
Coiled spout

Slab Spout

Roll or pat out slab. Cut a pattern by folding paper so spout will be symmetrical. Cut clay from pattern. Cut hole in pot. After scoring and adding slip, attach to pot.

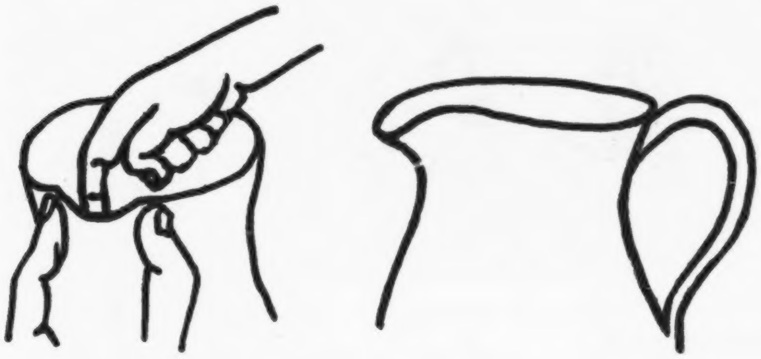


Slab spout



Pulled Out Spouts for Pitchers

When pot is finished and clay still plastic, place thumb and first finger on the outside of wall where spout is desired. Place finger of other hand between thumb and first finger and gently pull down the clay to form a spout while clay is still plastic. Pull the spout down enough so it will not drip after pouring. The angle shown in the line drawing is about right.



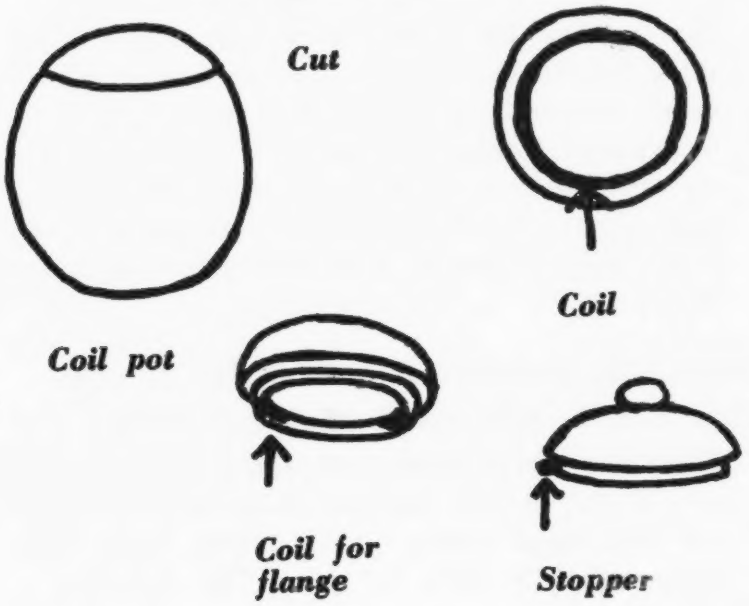
Pulled out spout

METHODS OF FORMING COVERS

The Cover as Part of Coil Pot, Flange Inside

Continue building the pot with coils until the top is closed. See Coil Pottery. When leather-hard, mark with tool where cover is to be cut.

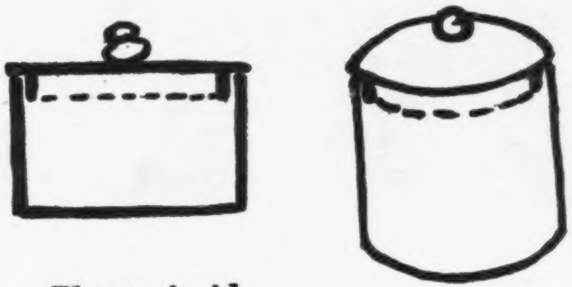
Cut carefully through, remove cover and round edges of both pot and cover. Flatten a coil a little and fasten around the inside of cover. Add a stopper so the cover will not slide off the pot. Attach a ball or handle to the top of cover by scoring, adding slip and welding.



A Cover from Slab with Flange Inside, Flat or Dome Shaped

Cut slab the same size as top of pot. Add a coil, flattened a little, far enough inside cover so the coil will be inside the pot.

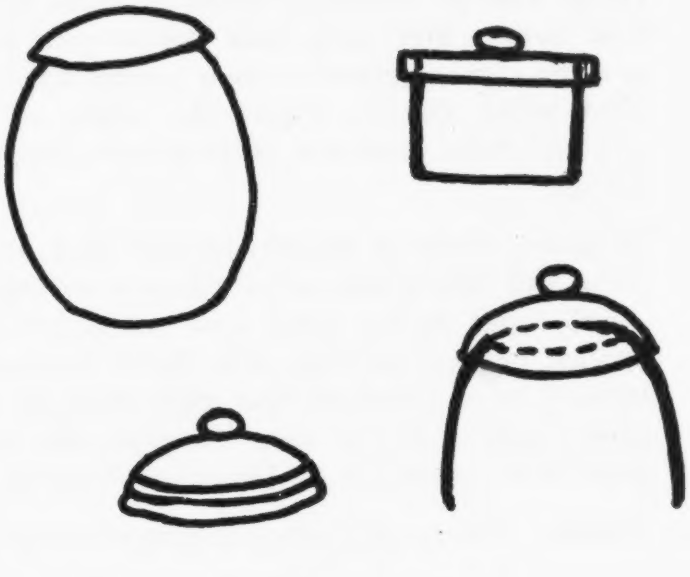
Turn upside down when leather-hard, add knob or handle. There should be a slight space between cover and pot.



Flange inside

A Cover Extending Outside, Flat or Dome-Shaped

Roll or pat out a slab, cut the cover larger than the top of pot so it extends out from the rim. Add two coils one over another, flattened a little, around the outer edge of the cover and weld. When leather-hard, turn upside down. Add knob or handle to cover. There should be a slight space between pot and cover so it will be easy to remove.



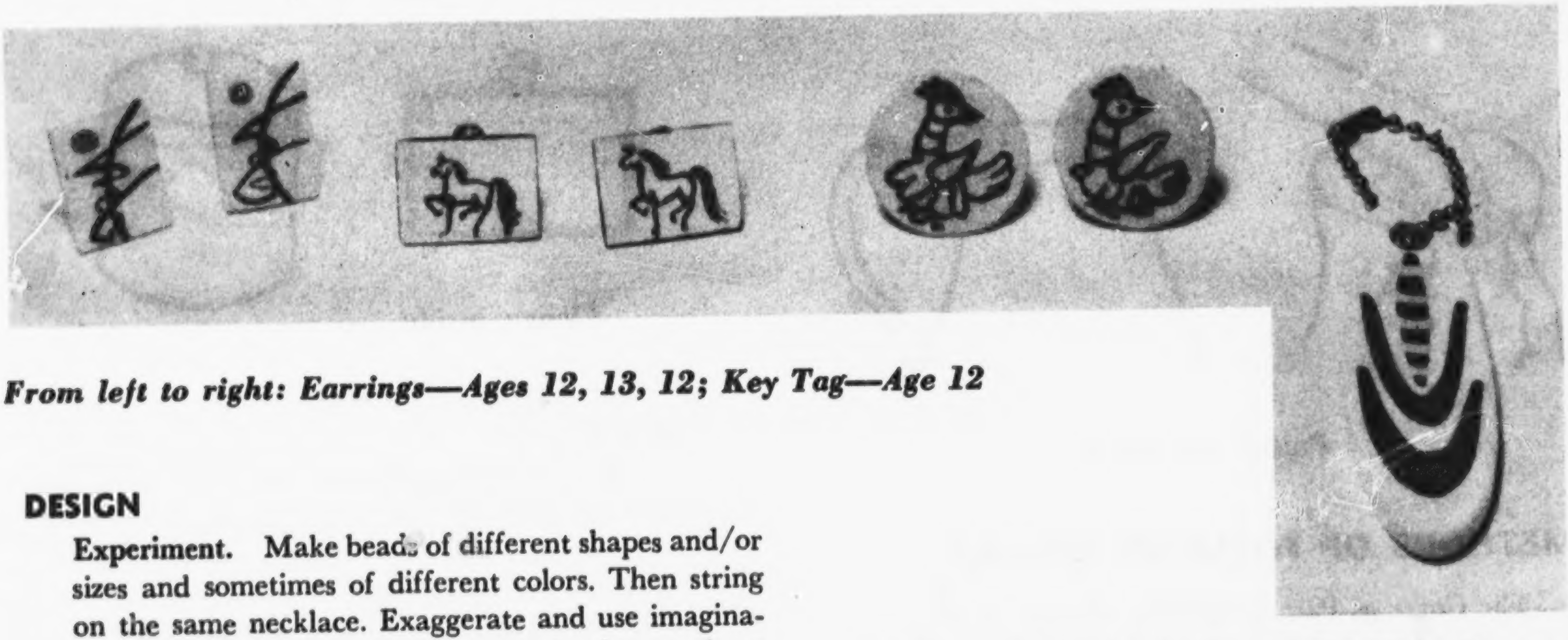
Flange outside

Dry covers and pots sparately. If bisque fired before glazing, place cover on pot while being fired.

CLAY JEWELRY

Beautiful ceramic jewelry was made in ancient times and it can be made today in art classes with a minimum of equipment.

The best clay for jewelry is a fine-grained, white clay because the objects and decorative design will be small. The white clay will assure more brilliant glaze color than colored clays. However, any pottery clay may be used.



From left to right: Earrings—Ages 12, 13, 12; Key Tag—Age 12

DESIGN

Experiment. Make beads of different shapes and/or sizes and sometimes of different colors. Then string on the same necklace. Exaggerate and use imagination like the ancient Egyptians and other ancients did. Experiment with original shapes and designs.

DECORATIVE DESIGN

Design abstract, geometric motifs or forms stylized from nature. Stay away from flowers with petals or other ideas suggested by some commercial firms, ideas which do not respect the nature of the material. Refer to section on Decorative Design or Pattern.

Methods: Incise or scratch; impress using orange sticks, nail files, erasers on pencils or other objects; model design in low relief with orange sticks or darning needles; decorate with slip or underglaze followed by a coating of clear glaze; decorate with glaze; glaze and fire, then decorate with overglaze. Refer to section on Decorative Processes.

Caution: Do not glaze where finding is to be glued.

Do not get glaze in holes of beads or buttons.

PROCEDURE

Beads of clay should not be too small due to the nature of the material. Use for necklaces or bracelets.

Coil method for beads: Form coil 1/2" in diameter or larger, the same size throughout for uniformity. Or form two or more coils of different sizes.

Cut coils into sections with knife or single-edged razor blade for beads when clay is firm but not leather-hard. Mold to desired shape or leave as cut. When firm, force stiff wire, nail or knitting needle through beads for holes, making the holes large enough to string on wire for glaze firing.

Slab method for beads: Form slab about 1/4" thick. See Slab Construction. Cut into unusual shapes or all the same shape. Roll like a cone or scone to form a bead, leaving a hole in center. Or form a thick slab and cut into flat shapes for beads. Mold or let them remain flat. When firm, but not leather-hard, pierce holes. Combine with coil-formed beads by alternating.

EARRINGS, CHARMS FOR BRACELETS, PINS, CUFF LINKS, KEY TAGS AND BUTTONS

Form slab, trace shape with pencil or nail, then cut. If clay is firm enough, round shapes can be cut with metal tubing or tiny biscuit cutter. Cut large enough to allow for about 15% shrinkage.

Make slight impressions on the back with findings such as the pin back, earring base or back of cuff link. Then when they are glaze fired, there is an indentation for the Duco cement so the findings will hold better. Purchase findings at hobby shops or ceramic supply firms.

Pierce holes for buttons when firm enough.

Plastic shanks may be purchased for the backs of buttons. Place the shanks above center on the back if the button is large or it will tip forward when sewed to costume.

Trimming: When leather-hard, level or smooth sharp edges with a knife and lightly sponge.

Caution: These articles must be thin enough to use but not too thin. If the piece is too thick, place the back on sand paper and rub it down after it is dry.

OLDS FOR CLAY JEWELRY

Press mold: Pour plaster of Paris mixture into shallow cardboard box top. See mixing plaster in How to Make a Plaster Bat. When plaster is set, pull off the cardboard. Scratch or gouge out design on surface only or dig out the plaster about 1/8" deep and then scratch the design. Press moist clay onto or into the plaster. When leather-hard, pull off the clay piece, trim and sponge. Now make as many duplicates as desired.

Pull mold: Form article from slab, or mold from a lump of clay. Sides of piece should not slope inwards. Scratch, impress or model design. Leave smooth if decorating with slip or underglaze. Use shallow greased cardboard box top, waxed paper cup or the bottom of a milk carton. When clay piece is leather-hard, place it with back down on bottom of box. Pour plaster in to cover article. When plaster is set, tear away cardboard. Remove clay piece. Press a wad of moist clay into mold, trim, level and remove when it is leather-hard and shrinks away from the plaster mold. Make as many as desired and they will be all the same.

FIRING

Bisque fire clay jewelry before decorating to avoid breakage when decorating except when using slip which should be applied when pieces are leather-hard.

BISQUE FIRING

Place flat pieces like buttons and earrings directly on shelf or on unglazed tiles. Beads may be piled up on shelf or placed in a bowl that is being bisque fired.

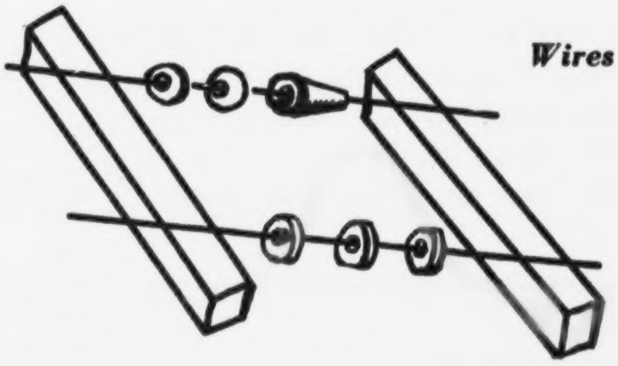
Caution: Be sure all pieces are dry.

GLAZE FIRING

Place flat pieces on tiny stilts purchased from ceramic firms.

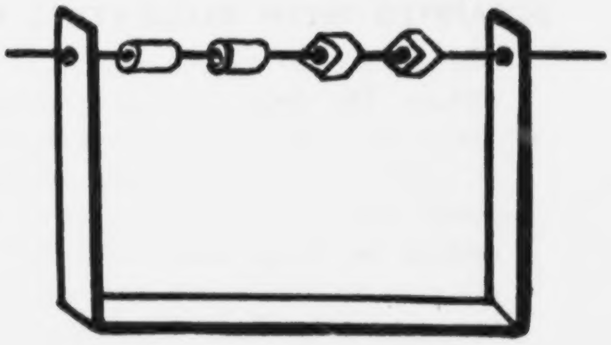
String beads or buttons about 1/4" apart on stiff kanthol wire from a ceramic supply firm or nichrome wire 20 gauge which may be obtained from an electrical products company. Lay ends of wire on two kiln posts. Or make a frame from a thick slab of clay about 3/8" thick and 1" wide. When clay is firm, make holes for protruding ends of wire. Bisque fire the frame beforehand. Distance between posts should be only 5" or 6". If wire is not stiff, twist it around post so it will not sag. A frame can be carved from firebrick and holes drilled for the wire.

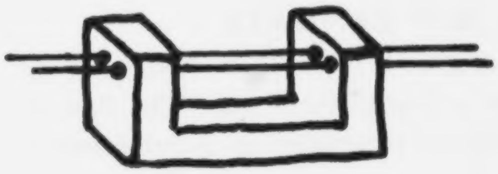
Caution: Be sure no glaze is in the holes of beads.



Wires on kiln posts

Bisque fired clay frame





Firebrick carved

DECORATIVE PROCESSES

The form or shape and the function of the clay piece will determine whether or not it needs decoration. The clay has its own beauty and often it is well to show it only partially covered with decorative design. Sometimes a beautiful shape needs no decoration at all except a transparent glaze if the piece is to be used for food or water. Refer to section Design for Crafts.

DECORATING SLIP OR ENGOBE

Decorating slip is colored clay mixed with water about the consistency of heavy cream. It can be used in many ways and can be of many different colors or white. It may be bought commercially or made, using white, cream or buff clay and adding metallic oxides or stains. When slip covers the entire surface, it is called an engobe. Slip is painted on the damp unfired ware with a brush and fired when dry. Then a transparent glaze is applied and the finished piece is fired again. It is possible to apply the transparent glaze to greenware after the slip is dry and then fire with the one firing only. Many slips, like glazes, do not remain the same color after firing due to chemical changes.

Sponge the clay piece before the slip application.

A good deal of experimenting is necessary to discover what strokes and other marks the brush can make. The design should be painted freely. Slip decoration may be thin, semitransparent or opaque.

Different textures may be attained with dry brush or sponge.

Apply slip 1/16" thick for an opaque application or it will disappear when glazed.

SCRAFFITO WITH DECORATING SLIP

The slip may be applied in parts or over the entire surface. The design is then scratched through the slip to the leather-hard clay body with a tool such as a dental prober, a hairpin, orange stick, nail or pencil. Lines and areas may be of various widths, making the design more interesting. Two layers of slip may be applied and then scratched through to first color only. Each layer must be about 1/16" thick.

TRAILING WITH SLIP OR GLAZE

Slip trailing produces a thick fluid line on fired ware or on moist or leather-hard clay. The flow of slip through a tube is controlled by hand pressure on the bulb. Slip trailing must be done quickly for once the line is started there is no time for pondering. The slip or glaze flows whether the hand moves or not. Very thick applications remain raised. Practice first on a tile or plate. Trailing may be done with a small syringe, medicine dropper attached to a balloon or by a commercially made trailer.

WAX RESIST WITH DECORATING SLIP OR GLAZE

Wax resist is done with wax emulsion which is a suspension of a soft wax and water. Apply the wax emulsion with a bamboo or other soft-haired brush. It may be applied on leather-hard or dry greenware; bisque ware; under or over slip or glaze.

Paint areas with the wax emulsion to mask the clay, slip or glaze in parts of the design.

Apply glaze or engobe (slip) over entire surface.

Wash brush with soap and water to remove wax.

During the firing the wax is burned out, exposing the clay body where the wax had been applied.

Another method is to apply wax, then scratch a design in it. Cover entire surface with glaze or engobe, then fire.

MARBELIZING AND COMBING WITH DECORATING SLIP OR GLAZE

Roll out slab of clay on heavy wax paper placed over a board. Pour slip or glaze over wet slab, tipping board to distribute it evenly. With trailers, apply contrasting colors onto the wet base color. To marbleize, tip so colors blend a little.

A piece of a coarse-toothed comb may be trailed in straight or curved lines to form a design in the base coat exposing the clay body. When slip has lost its shine, form a plate. See Slab Plates.

PAPER STENCILS WITH DECORATING SLIP OR GLAZE

Paper stencils or masks are cut, dampened and placed on the greenware. Slip or glaze is then brushed onto the exposed areas or patted with a sponge.

When dry, the stencil is then removed with a pin and the piece is allowed to dry for firing.

The negative or positive stencil may be applied to clay using "decorating" slip or glaze. Refer to section on Stencils and Stenciling.

SLAB DECORATION

Pieces may be cut from a slab of clay and pressed onto a basic form to make a pattern. Score and add "joining slip" where pieces are to be applied to the damp greenware.

MODELED DECORATION

Modeled clay shapes may be applied to the surface of a bowl, plate, tile or piece of sculpture. Score and add "joining slip" where it is to be applied to the damp greenware. Fingers or wooden tools are used to weld and round edges so as to completely cover the joint of the applied design. The ware should dry slowly and be checked to see that the applied shapes do not crack or loosen.

CARVED DECORATION

Carved decoration may be done on damp and leather-hard clay pieces with incised or excised line or pierced areas may be made by removing clay. The incised decoration is one where the design is scratched or carved into the surface which remains at the original clay thickness.

Excised decoration is the reverse of the incised decoration. The surface is carved or lowered leaving the design of the original clay thickness.

Texture and patterns may be scratched in with pencils, nails, orange sticks or any instrument that will incise a line in the damp clay.

STAMPED DECORATION

Pattern and texture may be stamped, pressed or printed into damp clay before it is leather-hard with ends of blunt scissors, pencils, pencil erasers, rulers, kitchen knives, forks, nailheads, bits of wood, seeds, pieces of combs, tightly woven rope, textured cloth as burlap, twigs and any other gadget that can be pressed into clay.

When printing one side of a bowl, support the other side of the wall with the other hand. Avoid too deep an impression which would weaken the wall.

MISHIMA WITH DECORATING SLIP, UNDERGLAZE OR GLAZE

Mishima is an inlaid technique. The design is first totally imprinted, stamped or carved in the damp or leather-hard clay. Decorating slip, liquid underglaze or glaze is next carefully brushed into the depressions and over the entire surface of the ware. After drying, scrape the slip or glaze from the surface, leaving the slip in the incised or imprinted marks. Some areas may be left partially scraped for texture.

INLAY WITH SLIPS, UNDERGLAZES OR GLAZES

Incised, impressed or sgraffito lines may be filled with slip, liquid underglazes or glazes, using a small pointed brush. Incised lines in a coating of wax emulsion may also be filled with an inlay.

UNDERGLAZES

Underglazes remain the same color after firing. They come in semi-moist, liquid or crayon form. They are brilliant beneath clear (transparent) glaze. They may be intermixed for new tones and shades. Semi-moist and liquid underglazes may be applied to leather-hard or dry clay and to bisque ware. Underglaze crayons may be used for sketching on moist or dry bisque or on a base coat of unfired, nonflowing glaze. Slip and underglaze decorations are dull when fired. The clay piece may be glazed partially or over the entire surface with a transparent or semitransparent glaze, clear or colored.

OVERGLAZES

Semi-moist overglazes for designs may be applied on a fired white or pastel glaze background. Fire slowly to cone 019-017 (1220°-1418°F.)

GLAZES

Glazes are composed of glass and other ingredients which liquefy when under extreme heat. They will best be understood by young people if explained as a simple coating of glass which is fused by heat to the surface of clay during the firing process.

Glaze has two functions, to make the piece more beautiful and to seal the clay surface. Appreciation should be developed for glazed ware that is dull, semi-gloss as in matte and semimatte glazes and for the more subdued or earthy colors. Commercial glazed ware with a glossy finish is more familiar so the appreciation of the other kinds must usually be developed by showing examples.

The glaze may be applied on only part of the clay piece, leaving the clay body exposed. The shape and function of the piece will determine how it should be glazed. Show examples, slides and films when possible.

Children should have a chance to choose their own colors in glazing. Glazes may be clear, opalescent, semitransparent or opaque. Most glazes are glossy and reflect the light. Some, however, are dull and reflect little light. These are called matte or semimatte glazes. Glazes may be plain, speckled or textured.

The most important thing to remember is that the glaze should have the same maturing temperature as the clay on which it is used. In a potter's words the glaze must "fit" the clay body. Buy only those glazes and clay which will mature at the temperatures for which the kiln is made.

When buying glazes, find out which reds may be used on greenware. Certain reds turn gray if fired on or near greenware. Chemical changes also occur in some other colors when fired under certain conditions.

PREPARATION AND APPLICATION OF GLAZES

Glazes may be applied to bisque ware or to bone dry greenware.

Mix glazes thoroughly before and during glazing except when using homogeneous glazes. Homogeneous glazes do not settle to the bottom.

Clean bisque or thoroughly dry greenware with damp sponge before glazing to remove dust and to provide a better surface for the glaze.
Thin glaze to light creamy consistency with water if too thick.

Apply two or three coats, allowing the glaze to dry between each coat. Then the glaze should be about 1/16" thick.

Greenware requires longer drying between coats of glaze.

Glazes may be homogenized by adding a tablespoon of soluble solution of epsom salts to a gallon of liquid glaze. This keeps it in suspension and from settling to the bottom.

To strengthen a glaze so it has a harder surface, add 1-2 tablespoons of gum tragacanth solution to a pint of liquid glaze. Add one part gum solution to three parts of dry glaze.

Gum tragacanth can be obtained in powdered form or in curls.

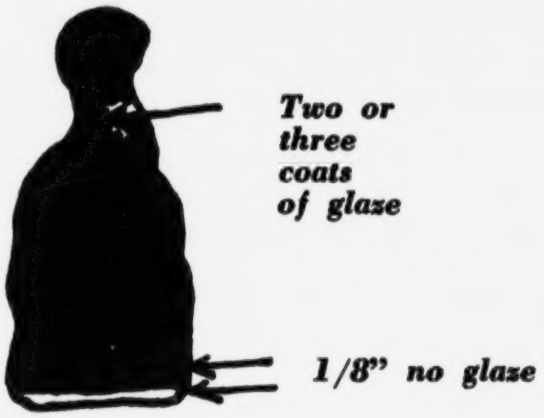
Powered: Stir a teaspoonful in an ounce of alcohol and add a half pint of water.

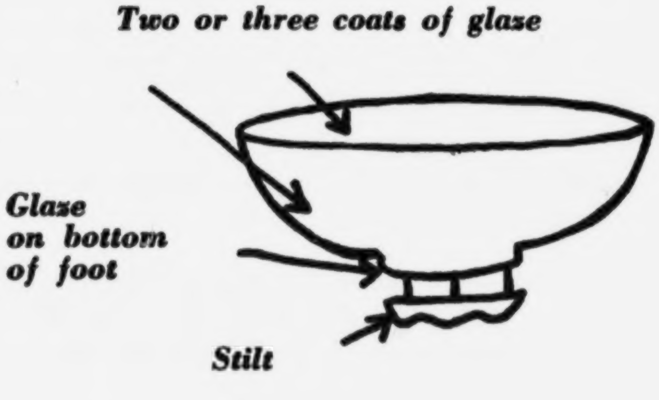
Curls: Dissolve 8 or 9 curls in one-half gallon of water. Add a few drops of oil of cloves or other disinfectant or the odor becomes objectionable. Set aside for a day and then whip vigorously with an egg beater. After another day it will be of the consistency of thick syrup and ready to use. Wave set, gelatin or karo syrup may be used as a substitute for gum tragacanth solution in the proportion of 1-2 tablespoons to a pint of liquid glaze.

EXPERIMENT WITH GLAZES

Try one color over another of similar glazes after first coat is dry for sculpture or pottery. This method gives more life than a mixture. Try one color inside and another outside for pots, a different color on the rim, dripping from the rim or dropping one color into another while wet.
Anything can happen in firing. Many times the accidents are more interesting than a perfect result.

METHODS OF APPLYING GLAZES





Brushing

The most satisfactory glazing method for young people to use is to dab or lay the glaze on in short, swift strokes with a soft-haired brush. Overlap each dab like shingles on a roof. The brush should be full of glaze and not scraped on the rim of jar. Apply each coat in an opposite direction to the preceding one, letting each coat dry between applications. Leave 1/8" with no glaze at the bottom of the outside wall and do not glaze the bottom unless the piece is to be fired on a stilt. Apply two coats. Scratch surface lightly to see if another coat is necessary. Glaze over scratch. Check piece to see that there are no thin spots. The inside of a pot should be glazed before the outside. If the opening is small, use the pouring method for the inside.

Pouring Inside

Thin glaze with a little water.

Pour "inside glaze" into the ware. Turn bowl in all directions so that glaze covers everywhere. Quickly pour off excess.

Pouring Outside

After the inside dries, lay two sticks over a large bowl and place the pot on these sticks. Place pot upside down on the sticks and pour glaze over the center. Touch up spots missed with a full brush of glaze. The large bowl will catch the excess glaze which may be re-used.

Dipping

Pour glaze into an enamel or plastic bowl that is deeper than object to be glazed. Simply dip the ware into the mixture quickly and evenly. Let the excess glaze drip into the bowl. Touch up unglazed parts with a full brush of glaze where the fingers held the object.

Spraying

This method should only be used with proper equipment: a spray gun, compressor, spray booth, exhaust fan and motor.

FIRING

Clay pieces are fired in a kiln of very high temperature for hardening. They must be bone dry before firing and feel warm when pressed against the cheek. If the pieces are damp, they will shatter in the firing. Even when dry, they absorb moisture in a humid climate.

PROCEDURE FOR FIRING

Bring the kiln up to temperature very slowly on low overnight with plugs out and cover on. Then the final drying is accomplished in the kiln itself. **Never turn to medium or high overnight even with a kiln that has an automatic shutoff.** Early the next morning, put plugs in and turn to high except in the case of a small kiln which fires very fast. Start firing in the morning as per directions that come with the small kiln.

Commercial electric kilns are being used in many schools. Firing requires some technical knowledge which should be supplied by someone with experience in firing. The degree of temperature to which the kiln can be fired, the cone at which the glazes fuse, the method of stacking the pieces and the time required for heating the kiln and cooling it should be points with which one is familiar before attempting the responsibility of firing.

It is possible to make a kiln. Equipment may be purchased and assembled.

It is possible to fire the clay pieces in an open fire somewhat like the "imu" used for cooking by the early Hawaiians. Clay pieces can be buried in sand in a hole in the ground. The pieces are placed carefully in the hole and can be placed one on top of another and covered with sand. The fire is made on top of the sand and it is started slowly and built up. The fire should last at least four hours. Allow twelve or more hours for cooling before uncovering the objects. This method is for bisque firing only and when slip, **not glaze,** is used for decoration.

Kiln Wash

Coast shelves and kiln bottom 1/16" thick with kiln wash to protect them from a running glaze.

Stacking

Loading a kiln for firing is called stacking.

Group clay pieces as to height on a work table.

Stack the lowest pieces first, leaving the high pieces for the top shelf or shelves of the kiln.

Posts, which support shelves, must be at least 1/2" higher than the clay pieces on any one shelf. Glazed pieces must not touch posts.

In stacking, place pyrometric cone so it may be easily seen through the peep hole and as near the center of the kiln as possible.

Cones

Pyrometric cones are placed in a pat of moist clay at the same angle as the clock hand pointing to one o'clock. The pats containing the cones are allowed to dry before placing in the kiln. Later during the firing, when the required temperature is reached, the cone bends. It should not be placed too close to anything in the kiln.

In a kiln with an automatic shutoff, follow directions accompanying the kiln. Small cones, called junior cones, are used in kilns with an automatic shutoff.

Check automatic apparatus occasionally.

Bisque Firing

Firing greenware with no glaze is called bisque firing. Clay pieces may touch each other in the kiln. Flat pieces may be stacked one over another, but must be kept level to avoid warping.

It is recommended that the clay work of very young children be bisque fired before glazing to avoid breakage during glazing.

Glaze Firing

After glaze has been applied to bisque ware and dried, the clay piece is re-fired. In this glaze firing the pieces must not touch each other, the posts or the walls of the kiln. Stack pieces with at least 1/2" between each other and walls and not extending beyond edge of shelves.

One Firing

The glaze may be applied to bone dry greenware, dried thoroughly and fired but once. Stack in the kiln as for glaze firing.

COMMON GLAZING FAULTS

Thin Spots

The glaze was applied unevenly. Warm the piece in the sun or on top of the kiln and re-glaze the thin spots. Sometimes it is necessary to re-glaze the whole surface. Then re-fire.

Chipping

The glaze does not fit the clay, the clay body contracts more than the glaze so the glaze chips or peels away from the body of the ware. Either the glaze or the clay must be changed. Peeling may also be caused by too heavy a coat of underglaze to which has been added a heavy coat of clear, transparent glaze. Apply thinner applications of slip and glaze in the future.

Crazing

The glaze does not fit the clay. The glaze contracts more than the body and tiny lines appear in the glaze. Usually a higher bisque firing will shrink the ware so that it will hold the glaze without crazing. If not, either the glaze or clay must be changed.

Crazing is sometimes caused by too rapid cooling or underfiring. Re-fire at a slightly higher temperature.

Crazing may result from applying the glaze too thick. Keep the application of the glaze 1/16" thick.

Blistering

Blisters may be caused by too short a firing time or overfiring. If underfired, re-fire and the blisters usually disappear. If overfired, apply another thin coat of glaze over the blisters and fire to the right temperature.

Matt Glazes

These semidull glazes may shine if overfired or if cooled too fast. They cannot be improved by re-firing.

Pinholes

Pinholes are caused by using sandpaper or steel wool to smooth the dried piece. Sandpaper and steel wool should not be used because particles adhere to the clay and cause defects on the glaze. Pinholes may also be caused by too rapid firing, too rapid cooling or poor application. Reglaze thinly. Re-fire more slowly or to a higher temperature.

Crawling

Bare areas or raised places are caused by ware being damp or by dirt or oil from hands on the piece when glaze was applied. The piece must be sponged before glaze is applied.

Crawling may be caused by too thick an application of glaze. Apply the glaze 1/16" thick. Or if a glaze has been ground too fine, there may be crawling.

Maybe the piece was underfired. Re-fire at a higher temperature.

Sometimes crawling occurs because the bisque ware was too porous. Bisque fire at a higher temperature next time. These pieces can usually be improved by another firing.

Warm piece in sun or on top of hot kiln. Apply a little gum solution to glaze. Apply glaze to bare spots or the entire surface and fire at a cone or two higher than the first firing.

Dull or Sandy Surface

Clay piece had too thin a coating of glaze or was underfired. Apply glaze 1/16" thick the next time. These pieces may be re-glazed and re-fired.

Running or Flowing and Sticking to Kiln Shelf

Running is caused by too thick an application of glaze or by overfiring.

The next time, apply glaze 1/16" thick and have 1/8" next to base with no glaze, leaving a dry foot and do not overfire. Use an emery wheel or rasp to remove the lumps caused by the glaze running.

HOW TO MAKE A PLASTER BAT

Plaster bats are used for dehydrating clay when it is too soft and for a surface on which to work. They are porous when dry and absorb moisture from clay.

Plaster bats, moistened by dipping in water, will keep an object plastic while working on it. They may be made in any shape or size, but thick enough so they will not crack easily. Increase thickness for large sizes.

MATERIALS

Deep pan, bowl or bucket for mixing

Pie pans of any material, cardboard boxes or roasting pans for casting

Plaster of Paris

Liquid soap, oil or grease

PROCEDURE

Measure water in pie pan or other casting container for size of plaster bat needed. Pour this measured water into mixing pan. Brush lightly the inside of the container to be used for casting with liquid soap, oil or grease.

Sift plaster through fingers, a handful at time, into water at the center of the mixing pan until a cone is seen rising and stays about 1½" to 2" above the water. DO NOT STIR while sifting the plaster into the water.

Begin to stir when the cone is high enough and wet through. Stir gently with hand or spoon, working from bottom up. When a creamy coat forms on fingers or spoon, pour the plaster into the casting pan. Jog to remove air bubbles.

Be sure table and pan are level. After pouring, if the top of the plaster needs leveling, draw a ruler or stick across the top.

If plaster is poured in the sink, it will harden and clog the drain. Wipe out mixing pan immediately with newspaper. Wash the pan.

When plaster bat is hard and set, remove from pan.

RESOURCES

The Code used for books is as follows:

*** — Recommended for school libraries**

# — Listed previously in Resources

L.H. — Library of Hawaii, Music and Art Room

A.A. — Honolulu Academy of Arts, Educational Department

A.D. — Studio of the Art Director

BOOKS

Elementary and Secondary

Duncan, Julia Hamlin and D'Amico, Victor. *How to Make Pottery and Ceramic Sculpture.* New York: Simon and Schuster, c1947. L.H., A.A., A.D.

Janeway, Carol. *Ceramics and Potterymaking for Everyone.* New York: Tudor Publishing Company, c1950. A.D.

*Long, Lois Culver. *Ceramic Decoration,* Book No. 1. The American Art Clay Company, Indianapolis 24, Indiana, c1958. A.D.

Nelson, Glenn C. *Ceramic Reference Manual.* Minneapolis, Minnesota: Burgess Publishing Company, c1957.

Randall, Ruth H. *Ceramic Sculpture.* New York: Watson-Guptill Publications, Inc., c1951. L.H., A.D.

*Sanders, Herbert H. *Sunset Ceramics Book.* Menlo Park, California: Lane Publishing Company, c1953. L.H., A.A., A.D.

Secondary

#*Art for the High School. Growing With Art Series.* Syracuse, New York: The L. W. Singer Company, Inc., c1957. Pages 37-42. A.A., A.D.

Hyman, Richard. *Ceramics Handbook.* New York: Arco Publishing Company, c1953. L.H., A.D.

*Kenny, John B. *Ceramic Sculpture.* New York: Greenberg: Publisher, c1953. L.H., A.A., A.D.

*Kenny, John B. *The Complete Book of Pottery Making.* New York: Greenberg: Publisher, c1949. L.H., A..A, A.D.

Stewart, J. A. *Ceramics for All.* New York: Barnes and Noble, Inc., c1950. A.D.

*Struppeck, Jules. *The Creation of Sculpture.* New York: Henry Holt and Company, c1952. L.H., A.D.

FILMS

Grade Level	Title	Color	Time
1-6	Let's Play with Clay, Animals	B & W	11 min.
1-6	Let's Play with Clay, Bowls	B & W	11 "
1-12	Clay Modeling for Beginners, Pinch Bowls	B & W	6 "
1-12	Clay Modeling for Beginners, Preparation and Tools	B & W	10 "
1-12	Clay Modeling for Beginners, Slab Bowl	B & W	6 min.
1-12	Craftsmanship in Clay, Simple Slab Method	Color	10 "
1-12	Simple Ceramics, Hammock Method	Color	10 "
1-12	What Will Clay Do?	B & W	10 "
1-12	Surface Decorations	B & W	8 "
4-12	Mexican Potters	Color	11 "
5-12	Craftsmanship in Clay, Decoration	Color	10 "
5-12	Craftsmanship in Clay, Glaze Application	Color	10 "
7-12	Craftsmanship in Clay, Simple Molds	Color	10 "
7-12	Ceramic Glazes	Color	10 "
7-12	Press Mold Method	Color	10 "

FILMSTRIPS

Grade Level	Title	Color	Frames
9-12	Clay Modeling—on an armature, making a slab dish and a mask	Color	23 frames
9-12	Plaster Casting—making molds	Color	32 "

CREATING WITH PAPER AND CARDBOARD

When creativity is stressed, paper construction is a valuable activity. It can be done successfully in varying stages of complexity in classes from kindergarten through high school. Paper construction is inexpensive and is easily adapted to an ordinary classroom situation.

VALUES

Creating with paper:

Provides opportunity to work in either two or three dimensions.

Develops skill in cutting, stapling, pasting and manipulating.

Provides opportunity to explore kinds and textures of paper: light or heavy weight, opaque or transparent, smooth or rough, shiny or dull, white or colored.

Provides opportunity to learn characteristics of paper: It can be folded, torn, cut, rolled or bent, curled, crumpled, pierced, twisted, coiled and fringed.

USES

Poster and bulletin boards enhanced with three-dimensional lettering and three-dimensional forms made from paper or cardboard.

Stage craft: costumes, settings, properties

Dollhouses and furniture

Picture frames Masks

Seasonal decorations: Christmas, Easter, Halloween,

Valentine's Day, May Day

Dioramas for Bookweek, literature or social studies

Place cards, Greeting Cards, Party hats and decorations

Collage, mobiles and stabiles Mexican piñatas

Toys and models: logcabins, cars, trucks, trains, houses, cattle, rockets

Animals, people, birds, fish

EQUIPMENT AND MATERIALS

Paper

White or colored	Crepe
Colored construction and tonal	Cellophane
	Shelf
Tissue	Bristol
Wrapping	Metallic foil

Cardboard, thin, such as suitboxes

Scissors Paper cutter

Pencils Scotch tape

Knives or single-edged razor blades

Metal-edged ruler Compass

Masking tape or gummed tape

Double-coated masking tape

Stapler and staples, small for tiny places and long for reaching far places

Paper clips or clothespins to hold paper in place temporarily

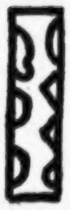
Paper punch and pinking shears for decorating

Paste Quick-setting glue Rubber cement

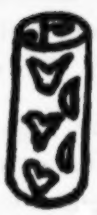
DESIGN

Paper may be decorated by tearing, pinking, punching holes with paper punch, pleating, fringing, curling, cutting, piercing with a pencil or knife and cutting with scissors or knife.

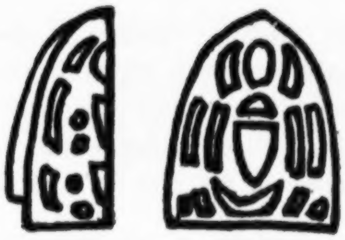
Fold



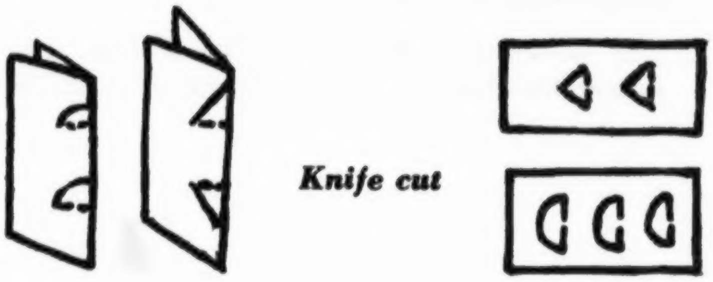
Cut



Join



Window



Slits cut and bent out on dotted lines

Flat paper can be shaped in numerous ways to form two-dimensional shapes or three-dimensional forms. Through exploration pupils can discover what can be done with paper. For the first experience let them experiment by tearing or cutting paper freehand in any kind of a shape free-form or geometrical and then by rolling or folding to make three-dimensional forms. These may be pasted, stapled, pinned or held together by tabs in slits. Let the pupils figure out how to fasten and decorate. These forms may hang or stand. This will involve choice of shape, form and color and will be the original expression of each individual child.

SUGGESTIONS

It is sometimes necessary to make a paper more flexible. Lay a flat instrument such as a ruler over a sheet of paper at the edge and pull the paper up. It can also be held against the side of a table with one hand and pulled over the table with the other hand. Paper prepared in this manner can easily be cut, scored, rolled, folded, curled or pleated. If it does not roll easily, try it in the opposite direction. The easier way is with the grain.

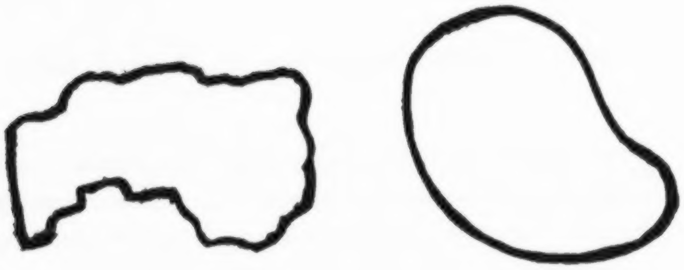
Begin with a simple problem regardless of the age of the group. Examples may be shown, but should be put away so the pupils will not copy.

Have pupils cut the size paper they need. Working in a small section of a large piece of paper is wasteful.

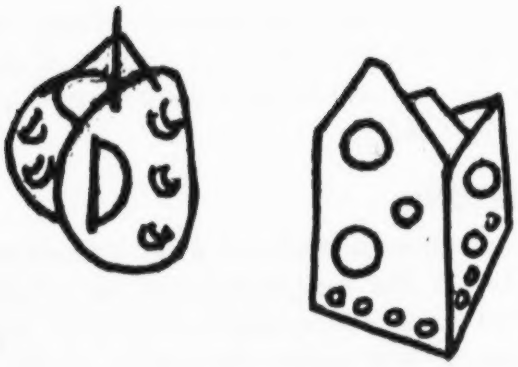
Experiment with a variety of papers, techniques and decoration. White paper is very satisfactory in showing shadows which intensify the sculptural quality. The three-dimensional forms should be pleasing from all sides as in sculpture.

Encourage children to use initiative and ingenuity in the fastening instead of showing them how to do things step by step. Fastenings should be as inconspicuous as possible.

The resources at the end of this section have innumerable ideas for the use of paper and cardboard.

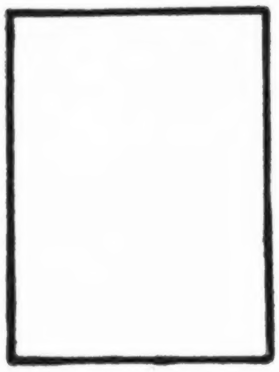


Free form

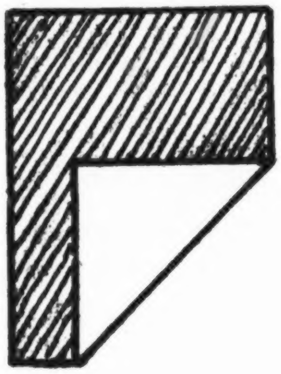


SHAPES USED IN CREATING WITH PAPER

Rectangle

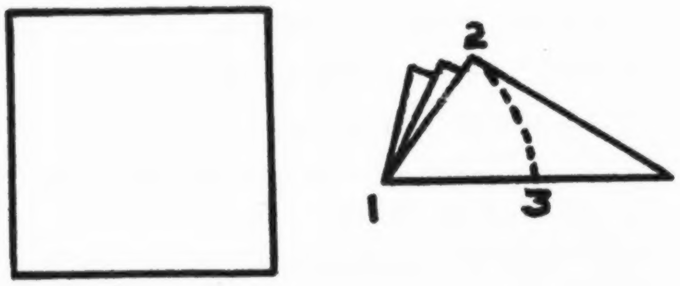


Square



To cut a square, take corner of rectangle up after measuring for size needed. Cut off shaded part.

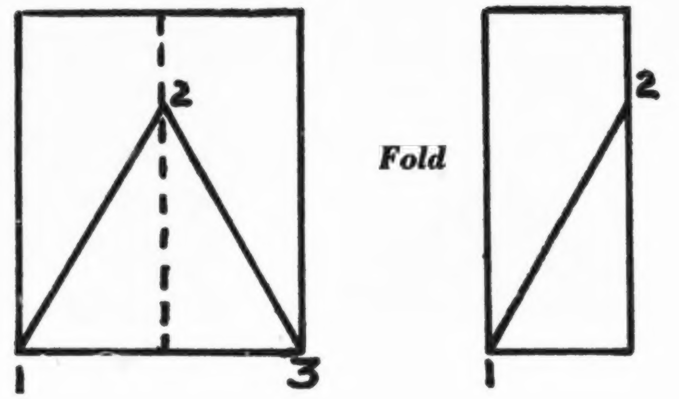
Circle



First cut a square from newspaper for a pattern to avoid folding the paper to be used for the project.

Fold square three times, in half each time. Measure 1 to 3 the same length as 1 to 2 and cut in a curve.

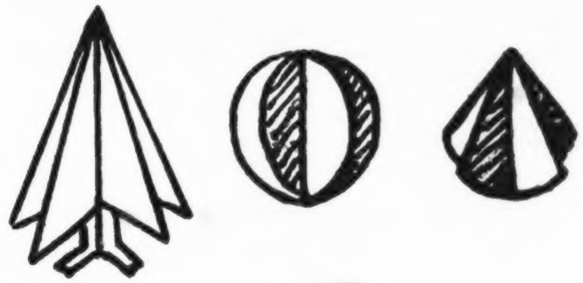
Triangle



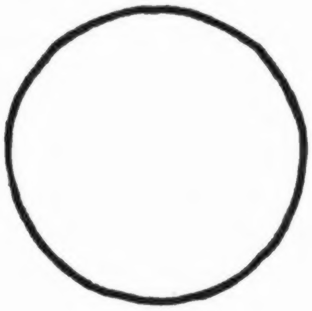
For equal sides, measure 1 to 3 the same length as 1 to 2, fold paper and cut from 1 to 2.

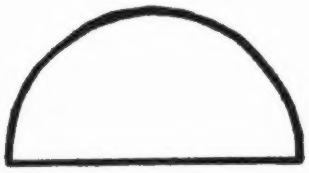
Triangles may differ in length of sides.

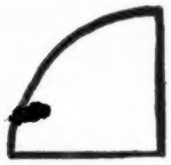
Use for Christmas ornaments and trees, folded and fastened together down the center to form a three-dimensional form.



Section of a circle

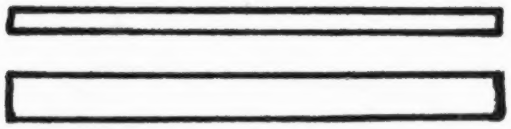


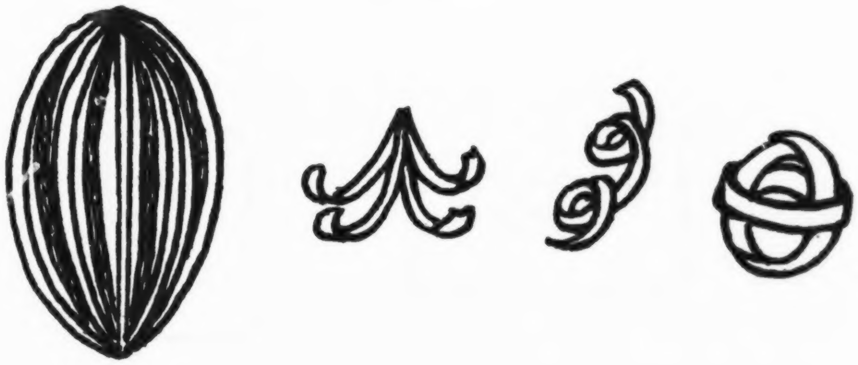




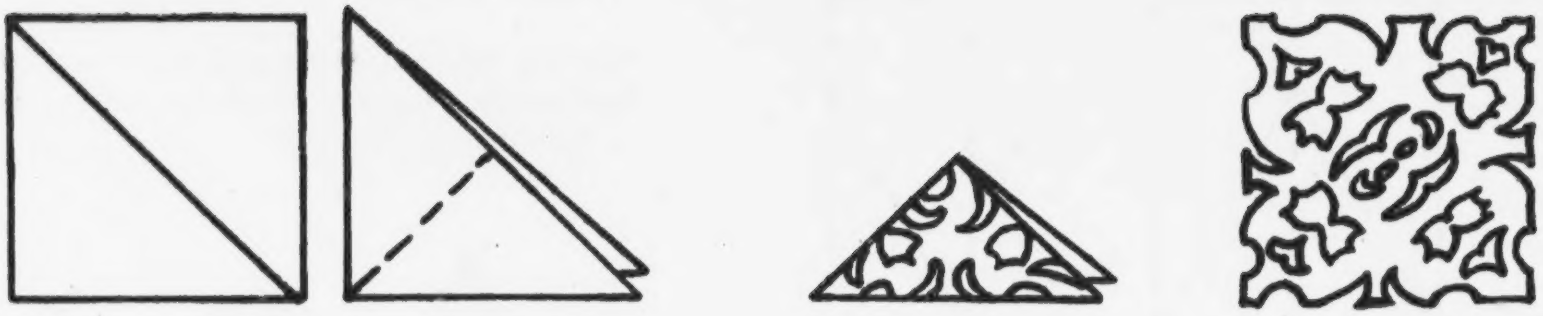
Use for cones, angel skirts and snowflakes. Two or three may be folded and fastened together down the center to form a three-dimensional form.

Strips may be cut short or long, narrow or wide depending on use.





Use for curls, tabs or for joining together at ends to make a three-dimensional hanging form.



Rectangles, squares or circles may be folded in half and in half again. Design are cut into this on all three sides to make snowflakes and lacy paper for valentines. Cut freely, no pencil drawing first.

BASIC TECHNIQUES

Tear or cut paper for shapes to be pasted on pictures, posters and murals where pieces overlap. This is an introduction to three-dimensional work in paper. Crumpled paper for mountains or rocks in dioramas also gives experience in three-dimensions.

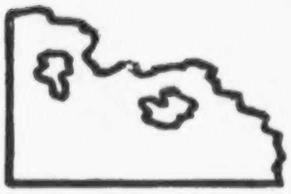
Folded paper may be used in making gift cards, booklets, Christmas ornaments, snowflakes, boxes and other forms.

Curl paper for hair on people or animals, bushes or trees in dioramas. Curl paper with the grain by pulling it over the edge of a ruler or by winding it around a pencil. The easier way is with the grain.

Score paper to make folding easier for both curved and straight folds. In scoring the top surface of paper it will be bent away from the cut. In scoring the underside of the paper it will be bent in the opposite direction. An example is pleating as in a fan. Scoring also makes it possible to form objects with more than two sides as in lanterns, Christmas ornaments, Christmas trees, buildings and castles. To score a straight line draw a dull knife by the side of a metal-edged ruler which will cut the paper slightly. The back of a knife or scissors may also be used. To score a curved line draw the knife freehand along the curve. **Avoid cutting through the paper.**

Roll or bend paper for rolled forms and cones for legs for animals, rockets for science, Christmas ornaments building forms including smokestacks, grain elevators and round towers of castles or buildings.

If paper is difficult to curl, roll, bend or fold a pieces of paper, try it in the opposite direction. The easier way is with the grain.

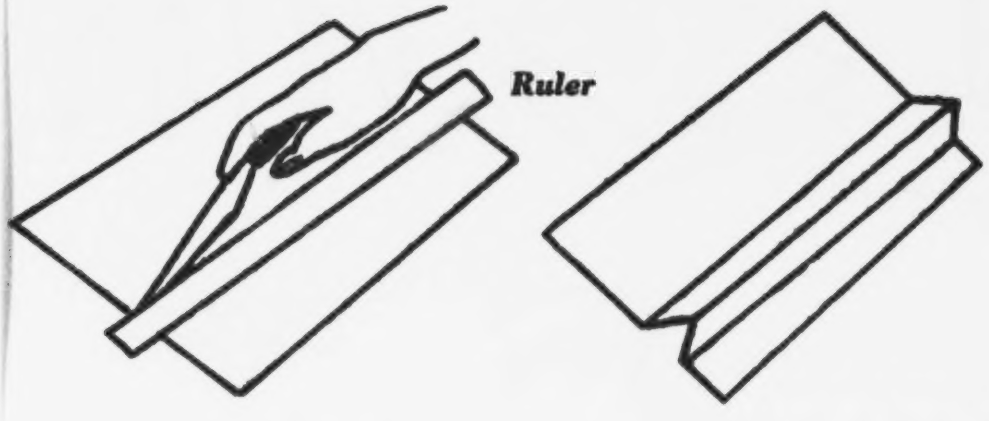


Tearing

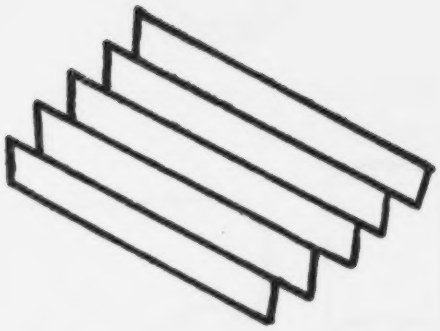
Folding

Rolling or bending

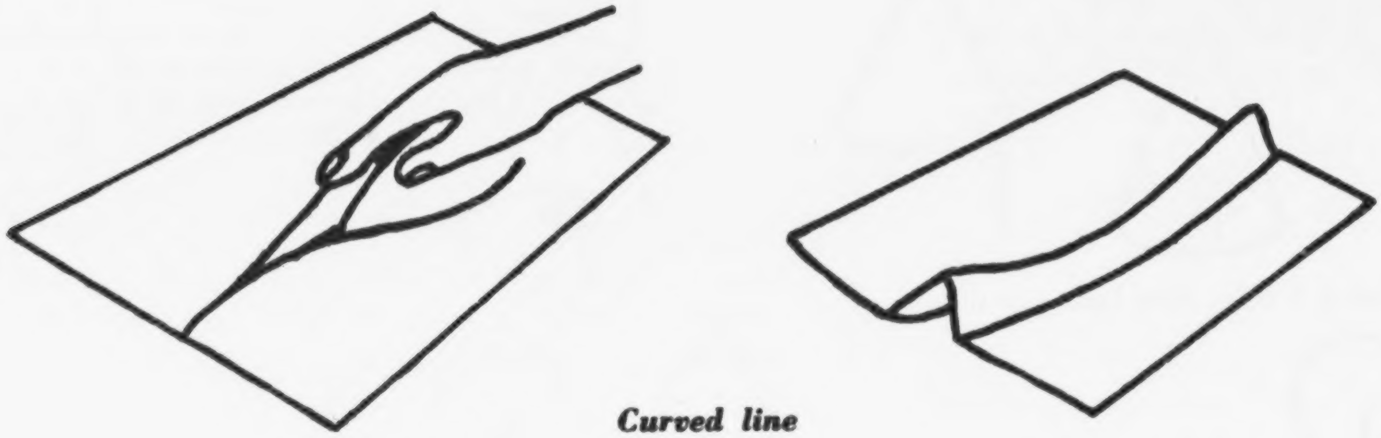
Scoring



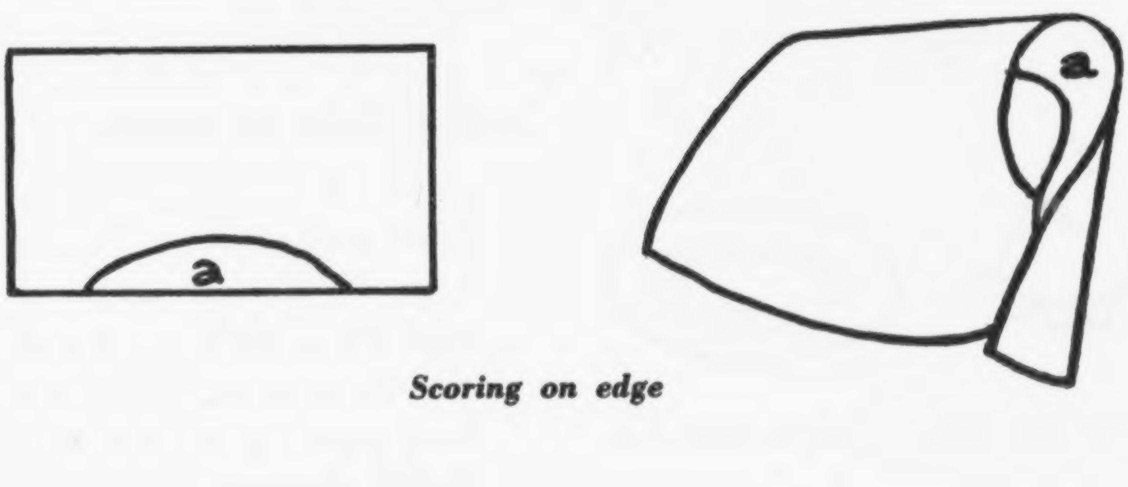
Straight line



Pleat



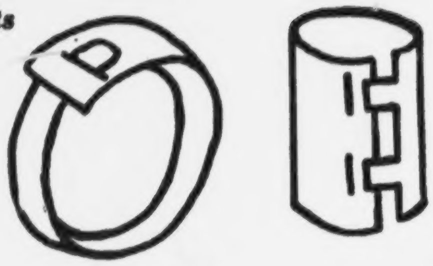
Curved line

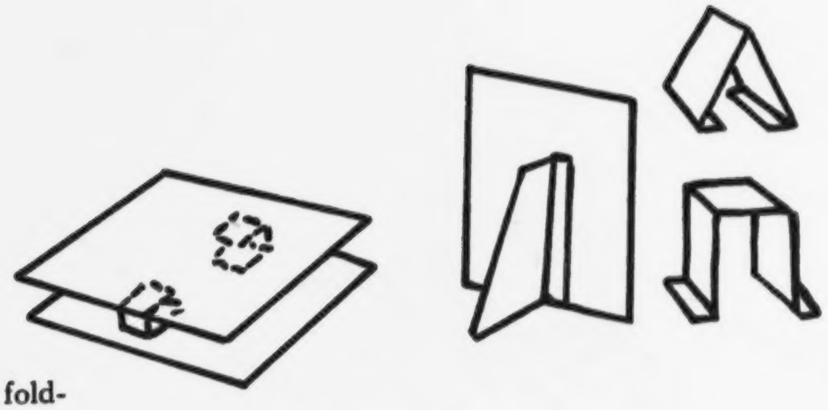


Scoring on edge

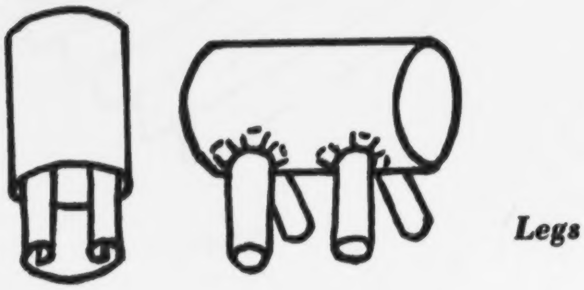
WAYS OF FASTENING

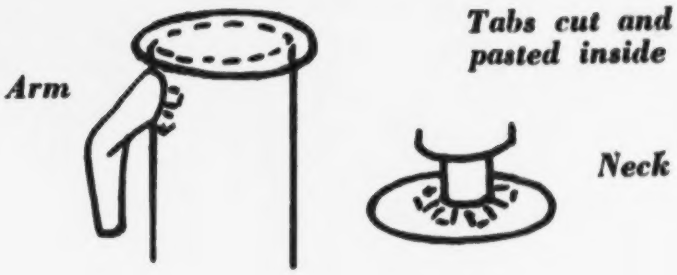
Cutting slits for tabs



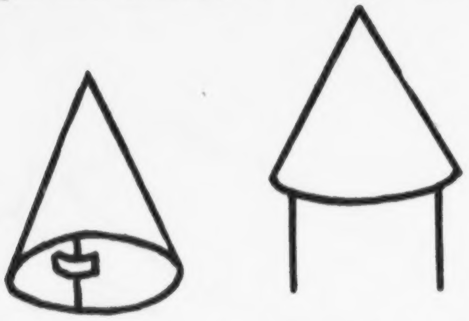


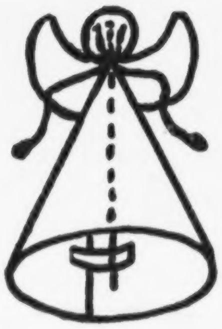
Inserting tabs between sheets at the back and folding tabs at base





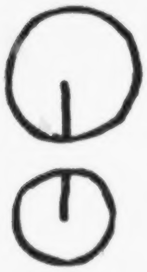
Rolling paper and inserting it in tube or cylinder



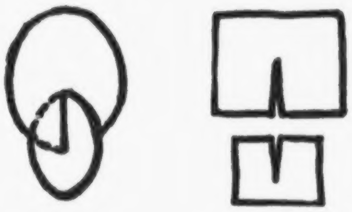


2 Pipe cleaners inserted in cork or kamani seed for head

Forming a cone, then taping or stapling



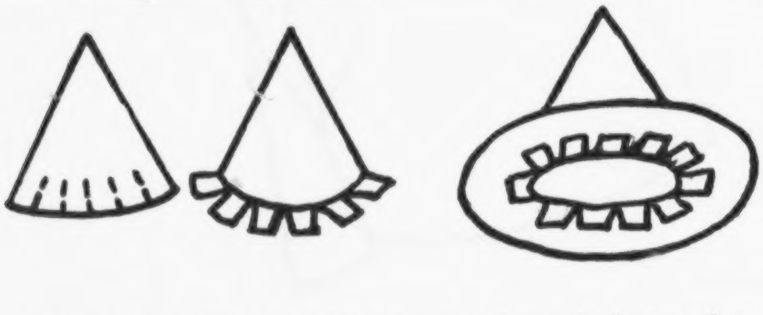
Slits cut in paper



Slits cut a trifle wider at base in cardboard

Interlocking joined at right angles

Slitting paper for interlocking, but cutting a very thin triangle for tagboard or thin cardboard



Cutting edge for tabs where a form is fastened to a base

OTHER WAYS TO FASTEN

Staple, paste or glue.

Tape with masking, gummed or scotch tape.

Tape with a double coated masking tape.

Pin, sew, tie or fasten with brass paper fasteners

Using paper clips and clothespins for holding pieces together temporarily.

PAPER BOX CONSTRUCTION

Each child works according to the way he sees the possibilities of the material. One child may start with a box that suggests the body of an animal and add tubes for legs, a tube for a neck and a small box on the tube for a head. Another may add ice cream covers to a box for wheels. A very imaginative castle may be constructed from various shaped boxes with cones formed of paper or thin cardboard for towers. When construction is completed, the children may paint and decorate.

VALUES

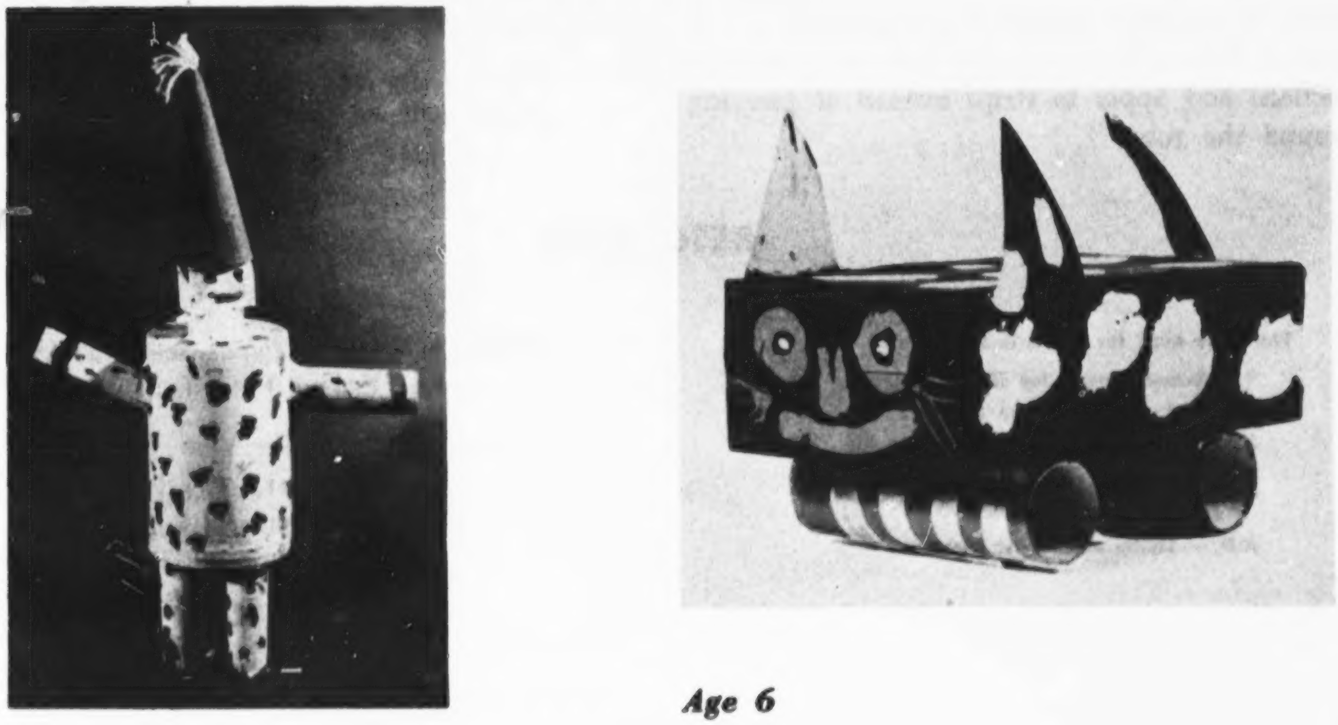
Paper box construction:

Develops fantasy and imagination.

Challenges the child's ingenuity.

Introduces the child to abstract design when making birds, animals or people and also offers the opportunity to make realistic objects.

Cardboard Box Constructions

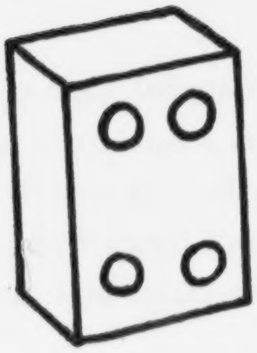


Age 7

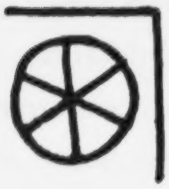
Age 6

EQUIPMENT AND MATERIALS

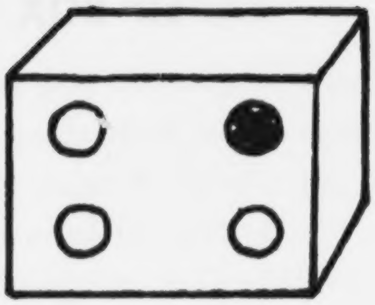
Boxes, all sizes and shapes
Cardboard mailing tubes
Rolls from paper towels and other sources
Milk bottle tops
Covers from ice cream cups
Covers from cottage cheese cartons
Cardboard, thick and thin
Corrugated cardboard
Construction paper, colored
Metallic paper
Masking tape
Gummed tape
Wheat paste
Quick-setting glue
Brass paper fasteners
Poster Paint
Crayons
Small Christmas ornaments
Feathers
Yarns
Rope
Wire
Spools
Corks
Beads
Buttons
Shells
Pipe cleaners



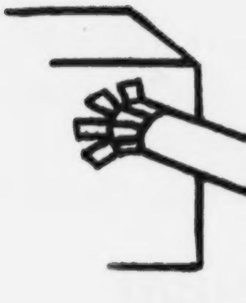
Draw circle



Cut



Push in sections



Insert tube an
apply tape

Let the children see the possibilities. Give suggestions and help only when necessary.

Discuss ways of fastening things together before the work is started.

Cut across a circle like cutting a pie to make holes in a box for tubes. It is easier than cutting around a circle. Place tube against box and draw a line around it. Poke a hole in center and cut. Cut tape in sections and apply in strips instead of carrying it around the tube.

Colored paper may be glued or stapled to a bo

If a box has a glazed finish or if masking tape used, the brush should be rubbed on a bar of so after it is dipped in the paint so the paint will sti to the glossy surface.

Buttons and other decorations may be glued on a some may be stapled.

Due to the native of the material, animals a people will be abstract and imaginative.

RESOURCES

The Code used for books is as follows:

- *** — Recommended for school libraries**
- **# — Listed previously in Resources**
- **L.H. — Library of Hawaii, Music and Art Room**
- **A.A. — Honolulu Academy of Arts, Educational Department**
- **A.D. — Studio of the Art Director**

BOOKS

Elementary and Secondary

Hughes, Toni. *How to Make Shapes in Space.* New York: E. P. Duthon and Company, Inc., c1956.
A.A., A.D.

*Johnson, Pauline. *Creating with Paper.* Seattle, Washington: University of Washington Press, c1958.
L.H., A.A., A.D.

Johnston, Mary Grace. *Paper Sculpture.* Worcester, Massachusetts: The Davis Press, Inc., c1952.
L.H., A.D.

Shelley, William J. *Paper Sculpture.* San Francisc California Fearon Publishers, c1947. A.A., A.

Wertsner, Anne. *Make Your Own Merry Christm* New York: M. Barrows and Company, Inc., c19 Includes directions for a 3-dimensional paper st
A

FILMS

Grade Level	Title	Color	Tin
1-6	Paper Sculpture, Creative Hands Series	Color	5½ m
1-12	Paper in the Round	Color	10
1-12	Torn Paper	Color	5
7-12	Techniques of Paper Sculpture	Color	10

FILMSTRIPS

Grade Level	Title	Color	Fram
4-7	Paper Sculpture Making flowers, a rose, Santa Claus an Christmas tree	Color	36 fra

PAPIER MÂCHÉ

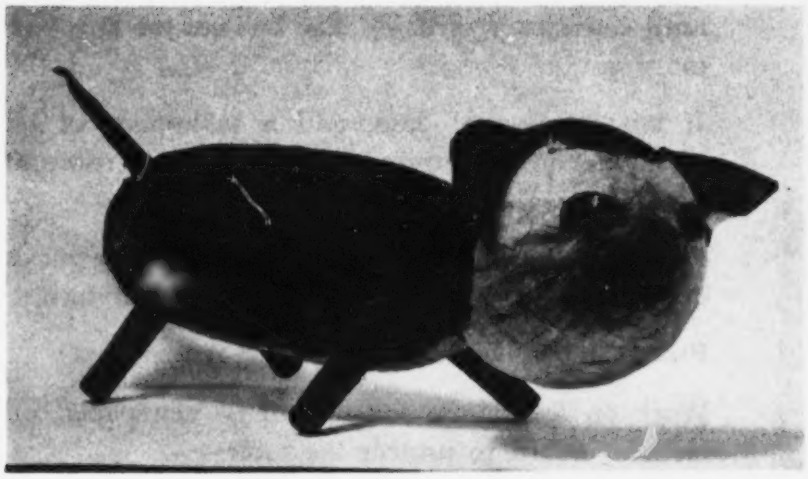
Papier-mâché is a French word meaning paper pulp. It has been used for centuries for figures and other objects. In many countries large replicas of clowns, other figures and animals are made for religious fiestas, carnivals and parades. Papier-mâché products are also made commercially, for example, furniture, utensils, boxes, and plates for newspaper printing.

There are three methods: pulp, strip and sheet. Use method best suited to object to be made.

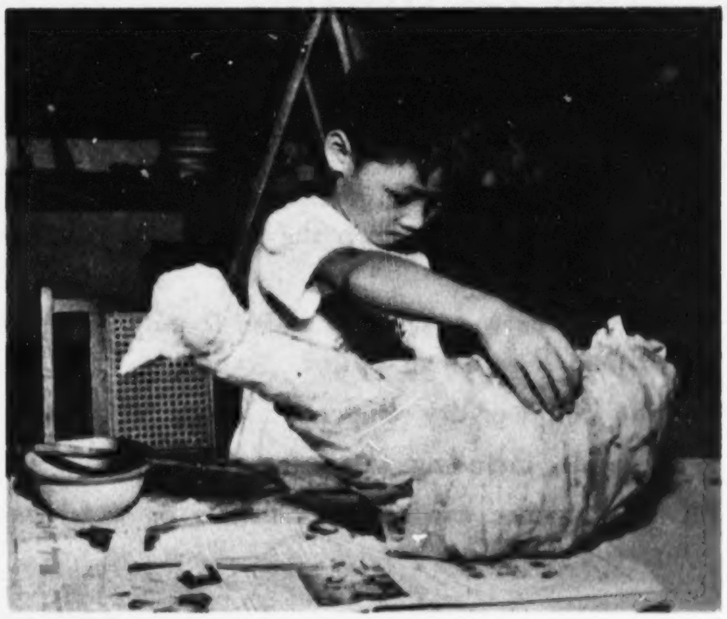
VALUES

Forming objects of papier-mâché:

- Encourages planning, thinking and research for shape or form of animals, people and other objects.
- Gives experience with three-dimensional form.
- Stimulates imagination and fantasy in form and in decoration.



Balloon Foundation—Age 13



Strip Papier-Mache Age 8

PULP METHOD

Pulp papier-mâché is paper reduced to a wet pulpy mass to which paste has been added. It may be modeled into forms somewhat like clay is modeled. It may be added for features to a puppet head or to a mask.

USES

- Covering a foundation or armature with a layer about 1/4" thick
- Relief map on a wood or heavy cardboard base
- Puppet heads and hands. Refer to section on Puppetry
- Modeling figures of people, animals, fowls, sea life, angels, crèche figures and masks

SUGGESTIONS FOR DECORATING PAPIER-MÂCHÉ OBJECTS

Use imagination in choice of color and in design, but avoid over decorating.

Ears may be made by the sheet method, cut to size, dried and fastened on before painting. Or cut from heavy paper or cloth and fastened on after painting.

Eyes may be painted on or made of buttons or seeds.

Tails or hair may be string, yarn or rope.

Attach decorations with glue or pins forced into body.

Short strips or paper curled over a pencil may be attached to body for hair.

Cotton may be glued on for sheep's wool.

Refer to sections on Decorative Design or Pattern, and Design for Crafts.

EQUIPMENT AND MATERIALS

Paper: newspapers, paper towels

Paste: liquid, wheat paste, flour, glues diluted with water or sodium silicate which dries very hard

Oil of cloves or wintergreen 1 tbsp. to a bucket of pulp if necessary to keep the pulp more than two or three days

Plaster of Paris or sawdust added to pulp if desired, 1 cup to a gallon of pulp

Paint: poster or dry tempera

Materials, including scrap for decorating

Oaktag, canec cardboard, masonite or wood base for relief maps

Bucket or gallon cans

Scissors

Paper cutter for cutting strips to be soaked

PROCEDURE

Cut newspaper in narrow strips about 1/2" wide and cut strips into pieces about a half inch square. If there is no cutter, tear the paper with the grain of the newspaper from top of paper down so it keeps straight and then tear into smaller pieces.

Put shredded newspaper into containers and add water until newspaper is covered. Soak until soft and pulpy overnight or a day or two. Boil if needed in a hurry. Mash soaked pulp further. Rub between hands, rub on washboard or pound with old baseball bat in bucket.

Squeeze out as much water as possible in hands or in cheesecloth as in jelly making. Add liquid paste to pulp and mix well by squeezing and kneading until consistency of damp clay but not too sticky or too dry.

If left for several days, add a tablespoon of oil of cloves or wintergreen to a bucket to prevent souring.

Plaster of Paris or sawdust may be added, but is optional, about 1 cup to 1 gallon of pulp mixture.

Protect tables with thick layer of newspapers.

Work on a separate folded pad of newspaper, oil cloth or board to protect the table.

Dry thoroughly. In damp weather objects may be dried in a 200° oven. Paint and decorate.

STRIP METHOD

Strip papier-mâché is the process of covering a foundation with layers of strips or pieces of "paste-soaked" paper for solid or hollow objects.

USES

Small and medium sized objects

Large objects and props for plays as rocks, animals or people

Hollow Christmas tree ornaments

Puppet heads, solid or hollow
  Refer to section on Puppetry

Easter eggs, hollow, to be filled with candy or made into a peep show

Figures of people, animals, sea life and bird life

Masks. Refer to section on Mask Making

EQUIPMENT AND MATERIALS

Paper: newspapers, paper towels or paper bags

Paste, any kind if liquid. See list under Pulp Method

Vaseline or other grease applied over foundation for hollow objects so foundation may be removed

Cheesecloth applied over grease for a firmer foundation (optional)

String, heavy and lightweight

Masking or gummed tape

Paint and materials for decorating

Shallow containers for strip dipping

Sharp knife or single-edged razor blades

Cutting pliers

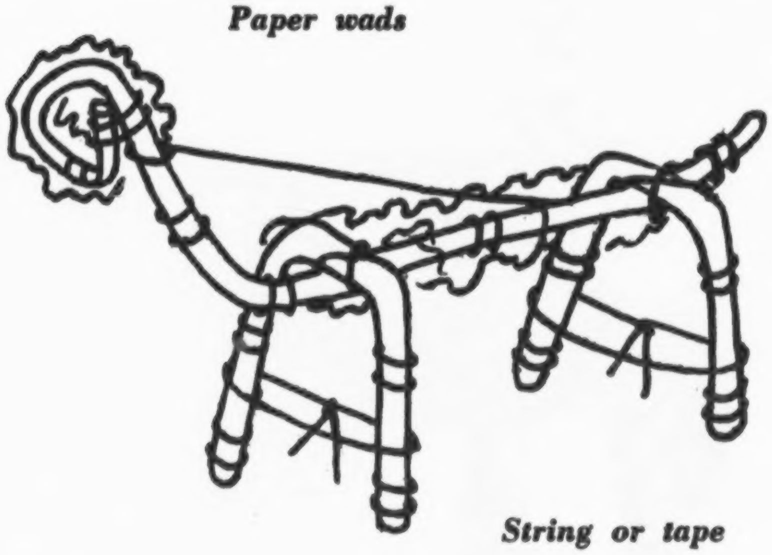
Wire, galvanized: #14 for large objects; #16 or #18 for small figures

Wire, scrap

SOLID OBJECTS—STRIP METHOD VARIOUS ARMATURES OR FOUNDATIONS OVER WHICH PAPIER-MÂCHÉ STRIPS ARE APPLIED

1. **Newspaper folded and rolled tightly into tubes and secured with string or tape.** The form may be filled out with crumpled wads of paper and secured with string or tape. Roll two tubes the same length for legs and one longer tube to form head, neck, body and tail. Extra tubes may be added for a hump on a camel, extra long neck for a giraffe or large head for an elephant. Tail of yarn or rope may be added later.

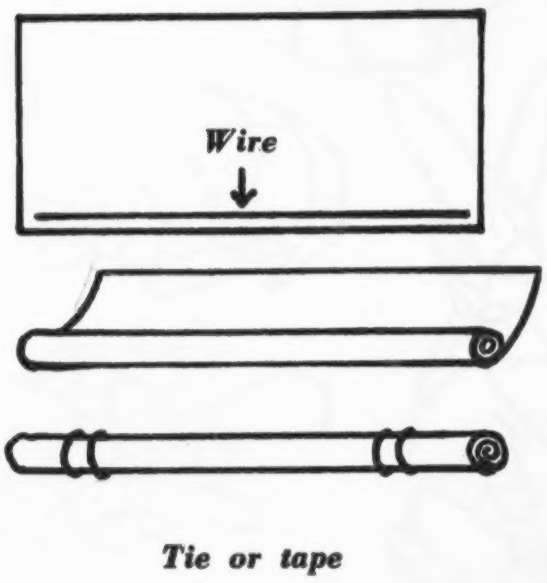
   Paper armature for solid animals. Tie legs temporarily. Fasten head to neck and body to legs. Tie neck to body temporarily pulling head to one side if desired. Crumple wads of paper to pad head and body. Fasten paper wads securely where needed with string or tape. Follow directions for stripping solid objects. Paint under part of body first and then all over.



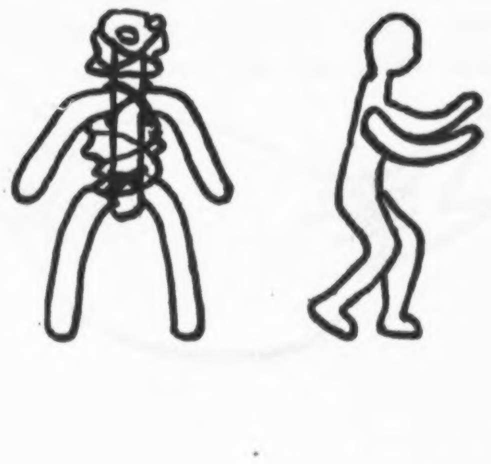
2. **Newspaper rolled over wire for greater flexibility of arms and legs.** The wire must be easily bent but strong enough to support the weight of the object. See diagram of number 1.
   Paper armature with wire. Fold paper over wire at edge and roll tubes for legs and body or also for extra tubes. If a body tube was rolled too short, add another piece for head and neck.

   No temporary tying is necessary. Think how animals turn heads and bodies and how legs look in action or in repose. Bend tubes to give character to the final form. Tie securely, pad with crumpled wads of paper and follow directions for stripping solid objects. Paint under part of body first and then all over.

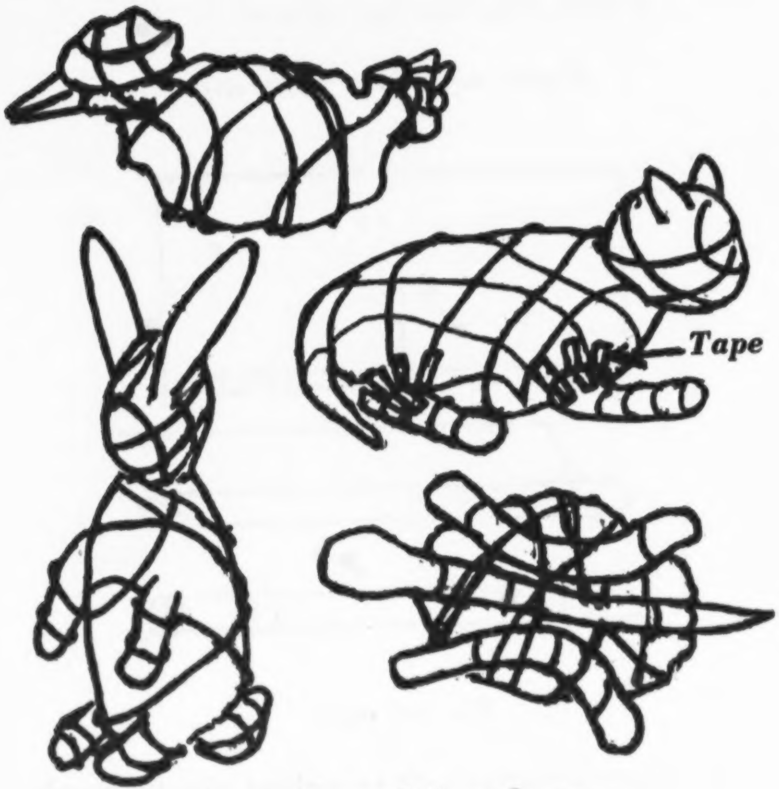
Paper armature with wire



3. **Paper armature with or without wire for people.** Roll three tubes. Fasten securely. Crumple wads of paper and attach where needed. Think how people look in different positions. Bend tubes if wire was inserted to give character to the figure. Follow directions for stripping solid objects. Paint body first. Clothes may be painted on or made of paper or cloth.

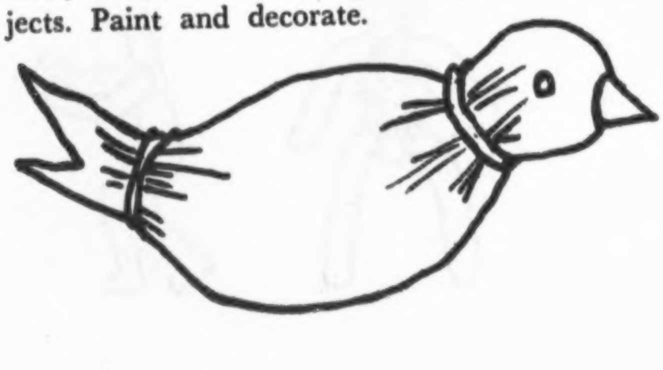


4. **Newspaper crumpled tightly into wads to form a shape and secured with string or tape.** Crumple paper into solid wads for body, head and tail and fasten securely with string or tape. Attach head and tail to body with glue or tape. Make bills or ears with sheet method, several thicknesses, of paper pasted together or use heavy paper. Roll tubes for legs. Poke a hole in body with scissors. Force legs into holes with glue and use tape to secure them to body. Use cardboard tubes for legs for standing animals. Follow directions for stripping solid objects. Paint and decorate.



Crumpled wad over rolled tubes for a turtle or frog

5. **Crumpled wads of paper in a paper bag.** Tie a string at base of head for neck and at end of body for tail. Add bills or ears of colored construction paper. Use like this **without stripping** for Kindergarten and Grade 1. For older children, follow directions for stripping solid objects. Paint and decorate.

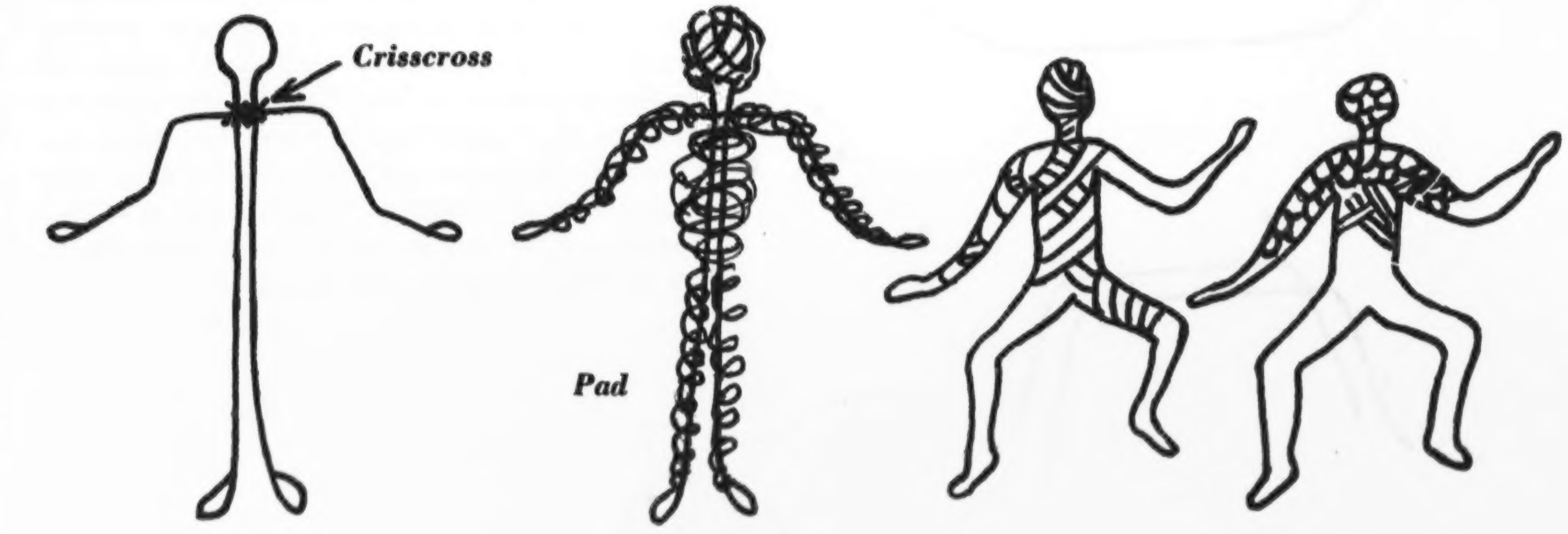


6. **Other foundations**
   Paper boxes or tubes
   Pieces of wood nailed together
   Wooden boxes
   Gourds, balloons
   Electric light bulbs for maracas, a rhythm band instrument. When dry, after stripping, tap to break glass
   Electric light bulbs for hollow puppet heads. Refer to Puppetry
   Plasticine and clay for masks. Refer to Mask Making
   Wire screen or chicken wire for large objects
   Galvanized wire #14, #16, #18 gauge or coat hangers, depending on size of object
   Pliers

Light Bulb Foundation—Age 10

Strip Papier-Mâché—Age 9

Pounding Poi: Diorama

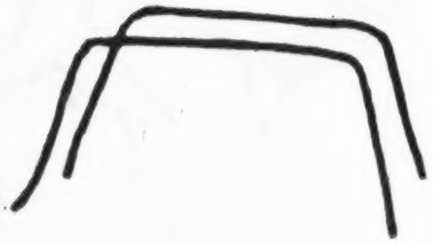


Bend, strip and apply last layer

7. **People and animals over wire armatures**
   a. **Armatures for people.** Cut one long piece of wire for head, body and legs. Bend the wire at center in a loop for head and loop ends of wire for feet. Cut another piece of wire long enough for shoulders and arms and loop ends of wire for hands. Bend for shoulders and arms. Attach below neck, crisscrossing with a string, masking tape or fine wire where wires cross. Be careful not to get the head too large or the arms too short. A child's head will be larger in proportion to the body than an adult's head.

The armature may be nailed to a board with double pointed tacks over the wire looped for feet or feet may be glued to a board when figure is finished. Apply wheat paste to a piece of newspaper. Fold it a few times and wrap it around the armature to pad all parts. Cotton or cloth may also be used for padding. Add more layers where needed, crossing one over another. For the last layer tear pieces of paper toweling or paper bags in small pieces, dip in wheat paste and apply to armature overlapping like shingles on a roof. When dry, paint body and clothes or make clothes of paper or cloth.

b. **Armatures for animals.** Cut three pieces of wire, one for front and back left legs, one for front and back right legs and one long one with loop at end for head, neck, back and tail. Fasten the three pieces together at the body section securely with string or fine wire. Pad as for people. Follow directions for stripping solid objects. When dry, paint and decorate. Add ears of paper or cloth.



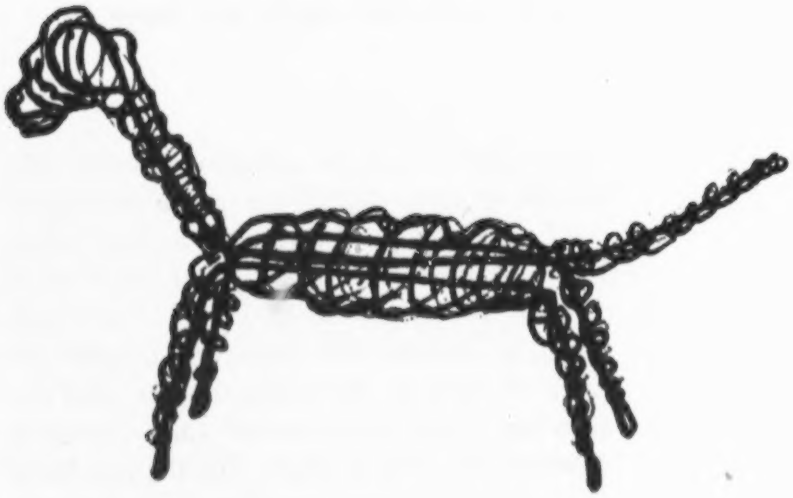
DIRECTIONS FOR STRIPPING SOLID OBJECTS

Make the type foundation best suited for object to be made. Pad with crumpled newspaper and fasten securely with string or tape.

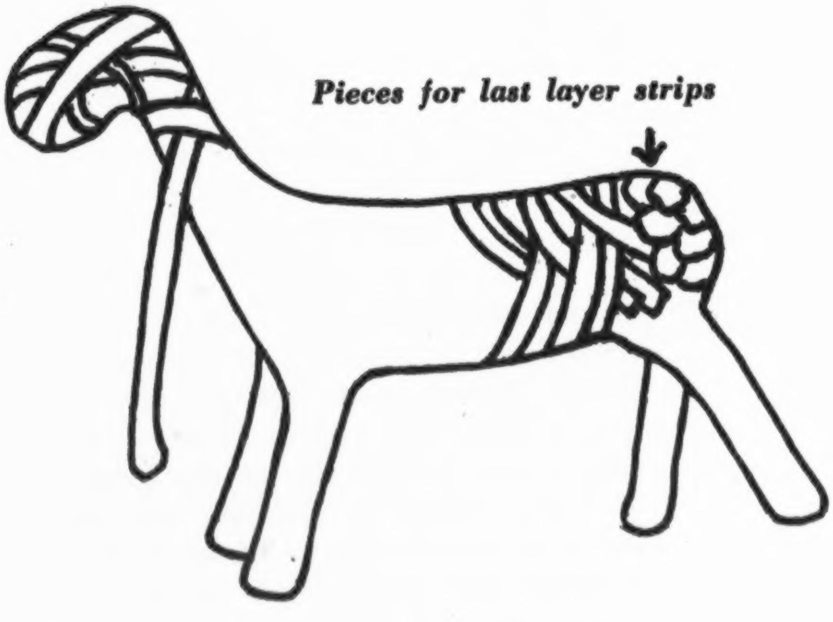
Tear strips of newspaper several thicknesses, with grain of paper from top of sheet down. Width of strips depends on size of object. If possible, alternate layers of colored comics with layers of black and white. Then it is possible to check whether one layer is completed all over the foundation.

Run strips through shallow container filled with liquid paste or butter strips with paste, using fingers.

Overlap dipped strips on armature until several layers are built up, criss-crossing each layer as you put them on. Be sure each strip lies flat on the form. Follow contours of body or other object and wind strips around it as in applying a bandage. Number of layers will depend on size and use of object, but not less than three or four. **For the last layer** tear paper towels or paper bags in pieces, any shape, run through paste and overlap like shingles on a roof. This gives a good finish for painting. Pieces instead of strips may be used for all layers for small objects. Dry thoroughly, paint and decorate.



Pad, tie and strip

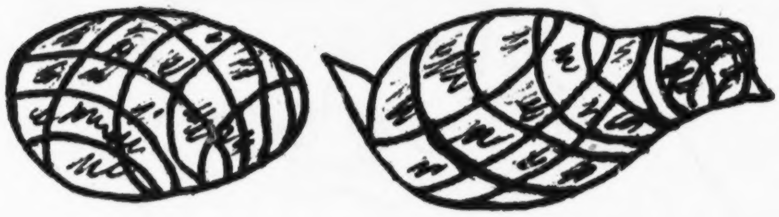

Pieces for last layer strips

Stripping solid object

HOLLOW OBJECTS—STRIP METHOD

FOUNDATIONS

1. **Crumpled paper foundation.** Crumple paper and form an egg shape for Easter egg.
   Pull in at base of head and tie for a bird or duck. Bill and tail are added after painting. Follow instructions for stripping objects to be hollow. **Be sure to grease foundation so it can be removed.**



Crumpled paper foundation

2. **Plasticine foundation.** Model shape desired. No grease is necessary because it has an oil base. Follow directions for stripping objects to be hollow.
3. **Clay foundation.** Model shape and dry until firm. Use no grease if clay is to be used again or fired. Instead, apply a layer of wet pieces of paper first with no paste. Then follow directions for stripping objects to be hollow.
4. **Electric light bulbs.** Use for puppet heads. Refer to section on Puppetry for hollow heads.
5. **Balloon foundation.** Use for Easter eggs, animals and masks. Balloon inflators may be purchased at a dime store. Follow directions for stripping objects to be hollow. When dry, deflate and remove balloon if necessary.

DIRECTIONS FOR STRIPPING OBJECTS TO BE HOLLOW

Make foundation: paper, plasticine, clay, electric light bulb or balloon.

Apply vaseline or other grease over surface except on plasticine.

Apply cheesecloth if desired for firmer foundation.

Apply torn "paste-soaked" strips, several layers.

If possible, alternate layers of colored comics with layers of black and white. Then it is possible to check whether a layer is completed all over the foundation.

Be sure strips lie flat.

For last layer apply torn "paste-soaked" pieces of paper toweling or paper bags torn in small pieces and overlap like shingles on a roof.

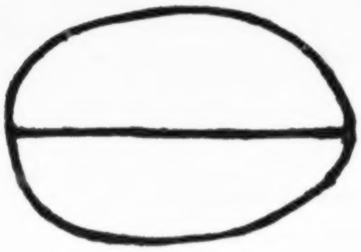
Dry thoroughly.

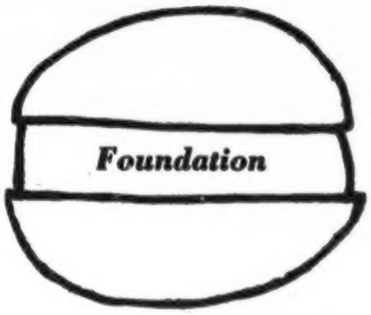
Cut open with single-edged razor blade or sharp knife.

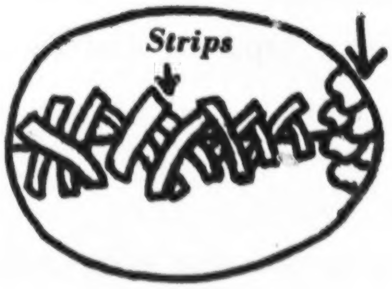
Remove foundation.

Join two pieces together again by crisscrossing strips.

Dry and decorate.







SHEET METHOD

Sheet papier-mâché is the process of pasting one sheet of paper over another to make a moist, thick layer to be used for forming mountains or appendages like ears or wings. It will dry stiff.

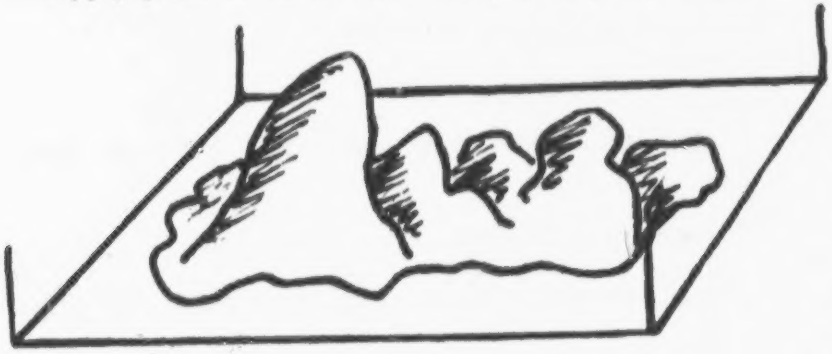
USES

Relief maps   Terrain for dioramas

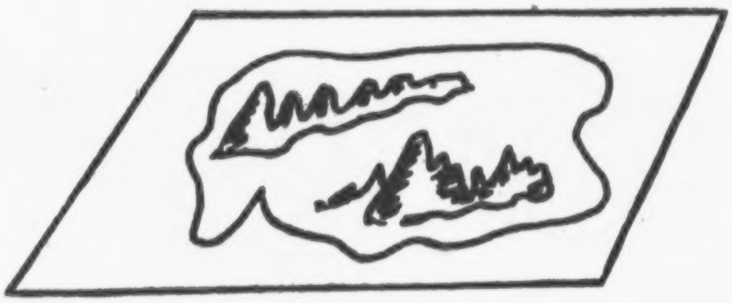
Parts of figures as wings or tails

PROCEDURE

Apply paste to sheets of newspaper as you pile one over another. The weight and thickness of the object determines how many layers are needed. For relief maps, mountains and diorama terrain, lay the "paste-filled" sheets over dry crumpled paper and shape as described.



Diorama



Relief map

RESOURCES

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- **A.D. — Studio of the Art Director**

BOOKS

Elementary and Secondary

*Betts, Victoria Bedford. *Exploring Papier-mâché.* Worcester, Massachusetts: The Davis Press, Inc., c1955. A.A., A.D.

FILM

Grade Level	Title	Color	Time
3-9	Animules	Color	10 min.

MASK MAKING

The word "mask" is magic to young people for they think first of Hallowe'en. Masks are sometimes used to cover the faces of characters in a play. Making a mask is not just an activity done today. People all over the world have made masks for religious purposes and ceremonial rituals including those made by the American Indians, people of Pacific Islands, Indonesians, Egyptians, Romans, Greeks, Japanese and Chinese.

VALUES

Mask making:

Stimulates fantasy and imagination.

Helps one to visualize the face in different forms.

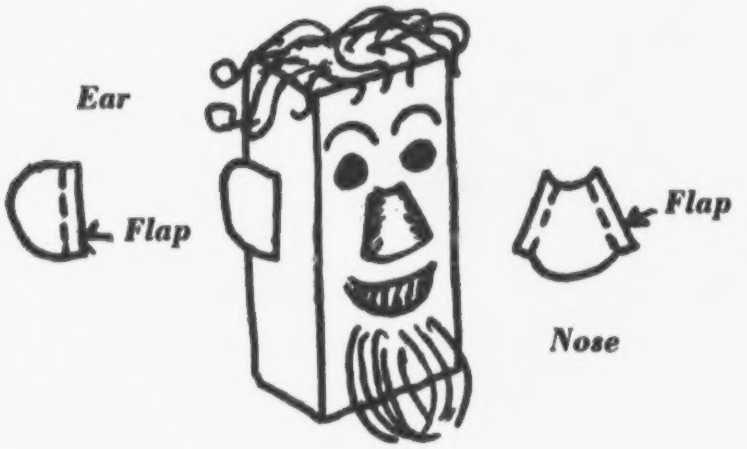
PAPER BAG MASK

EQUIPMENT AND MATERIALS

- Poster paint
- Colored construction paper
- Large paper bags
- Library paste
- Scrap wool, yarn, cloth, string
- Scissors
- Paint brushes
- Stapler and staples
- Paste brush
- Gummed tape

PROCEDURE

Put paper bag over head. Find with fingers and mark the place where eyes, nose and mouth should be. Remove paper bag and cut shape for eyes, nose and mouth. Paint features or build on features such as a nose and ears made of paper or cut slits in bag and insert nose and ears as in diagram. The mask can be decorated with yarn, cloth, scrap material or cut paper.

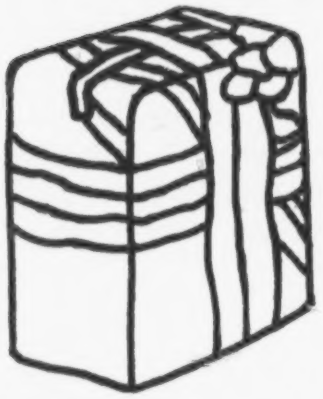


Paper bag mask

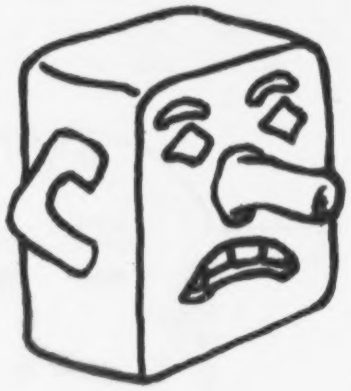
Another method: Crumple wads of newspaper and fill a large paper bag so it will stand. Turn the open end inside to shorten the bag. Follow directions for stripping solid objects described in section on Papier-mâché. Only two layers of strips are needed for a stiff mask.

Protruding noses and ears may be added while the mask is still wet. This is done by crumpling newspaper to the shapes desired and fastening them to the mask with "paste-soaked strip." Then apply the last layer of overlapped pieces of paper toweling or paper bag.

When the mask is dry, remove the stuffing of crumpled wads of paper from the bag. Put the mask over the child's head and mark the place where eyes should be. Then cut with a sharp knife or scissors. Paint and decorate.



Paper bag stripped



PAPER MASK

Paper Mask—Age 12

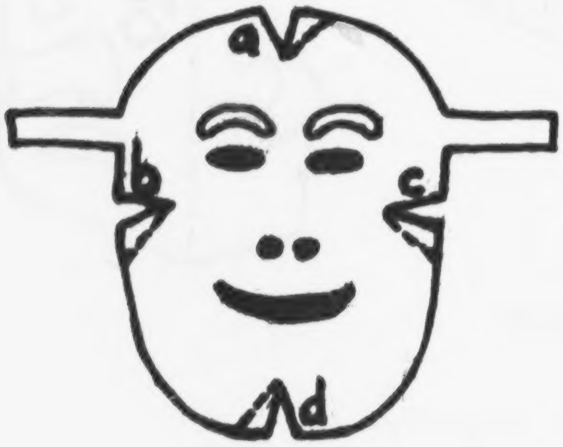
EQUIPMENT AND MATERIALS

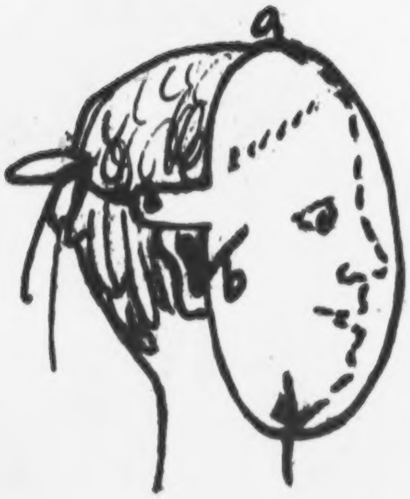
Oak tag or colored construction paper 12" x 18"

Pencils	Stapler and staples
Scissors	Paste

PROCEDURE

The first step is to make a basic pattern by placing a piece of paper over the face, asking another child to outline the face with a pencil around chin, ears and forehead. Locate the eyes, nose and mouth with fingers and mark with a pencil or chalk. After the contour of the face has been marked, place the mask on the table and raw the features. With a pair of scissors cut out the features.



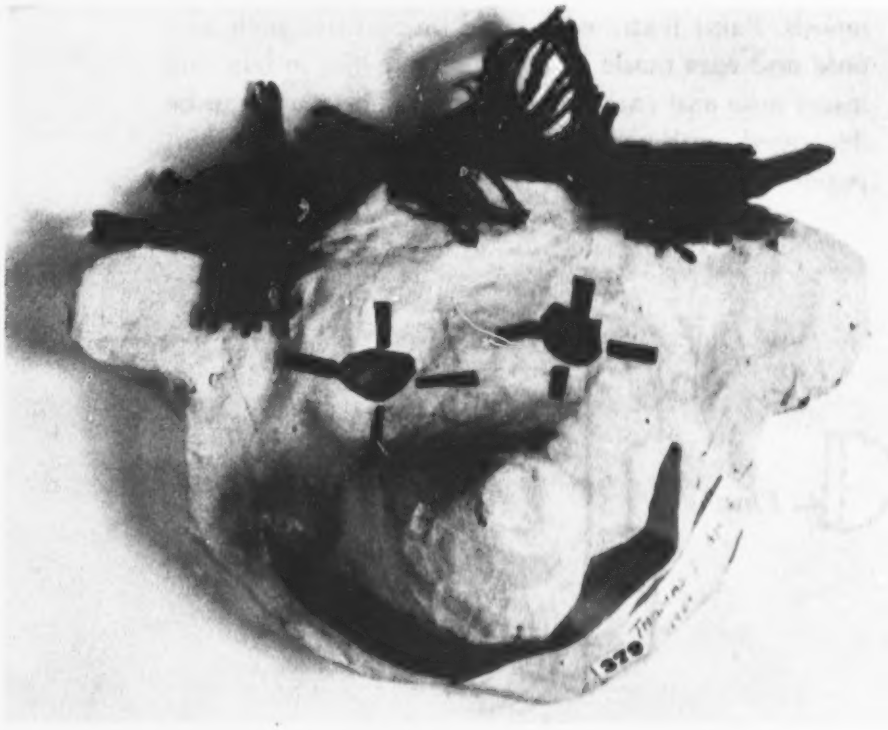


The paper is then folded in half. The chin, cheek and forehead cuts a, b, c, and d are overlapped to give a three-dimensional form that fits over the face. They are then pasted, taped or stapled on the inside.

The mask can now be painted. Put aside to dry. D tails are added such as hair, eyelashes, eyebrov mustaches, decoration with construction paper, ya or other scrap material.

A hole on either side of the mask should be punche and reinforced to insert wire or string so that ma can be worn or hung on a wall.

PAPIER-MÂCHÉ MASK—PAPER FOUNDATION



Paper Foundation Mask—Age

EQUIPMENT AND MATERIALS

Staplers and staples

Paper clips

Paint brushes

Boards: board, oil cloth, plastic, masonite or ver thick pad of newspaper

Newspapers

Gummed paper or masking tape

Poster paint

Library or wheat paste, thin

Scraps: wool, cloth, yarn, feathers, beads, button sequins

PROCEDURE

Fold a sheet of newspaper several times the long way to make a 2" or 3" band. To make a frame, place the band around head to measure the head size. Overlap the ends of the folded paper and hold the band together with paper clips. Remove band from the head and fasten with staples.

Place band on a board and pack with crumpled wads of newspaper. Pack newspaper band and pile the crumpled wads to a half-round or egg shape form within the band.

Form the nose, eyes, mouth and ears by adding wads of paper the desired shape and secure with tape. Or the features may be pressed down inside the foundation.

After the features have been built up, damp pieces of paper should be placed over the whole form with each piece overlapping another. **Do not dip the pieces of this first layer in paste** as then your pieces would stick to the basic form.

Tear strips of newspaper, several thicknesses, from top to bottom of page.

Draw the torn strips of newspaper through paste or butter with paste, using fingers. Place the strips in crisscross fashion over the form or foundation. Repeat for succeeding layers. Be sure strips lie flat on the foundation.

If possible, alternate the layers by using printed newspaper for one layer and colored comics for the next. This procedure helps to keep the student aware of how many layers he has placed on the mask and if he has finished each layer completely.

Four to six layers of newspaper strips are necessary to be sure the mask is firm. **The last layer** may be of paper toweling or paper bag. Tear in pieces, instead of strips and overlap. Be sure the edges of the mask are firm.

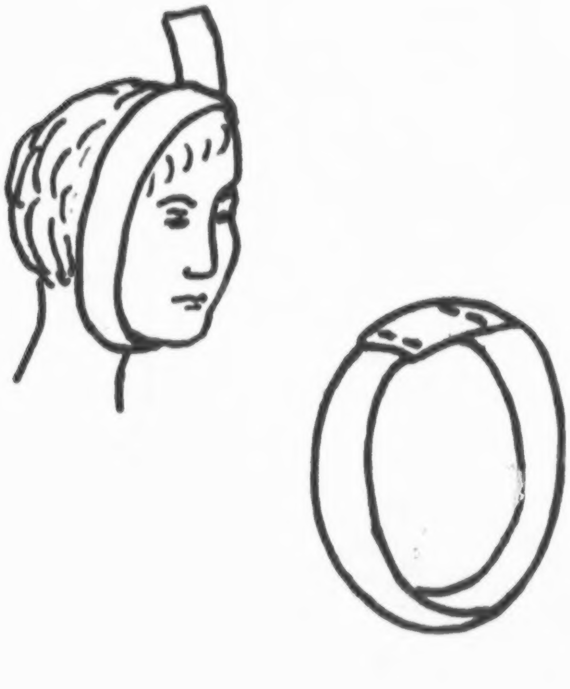
After the mask is dry, the stuffing is removed. If edge is ragged, straighten with scissors and bind with strips of paper or gummed tape. The eyes and mouth are cut out if desired.

The mask is then painted with poster paint. Set aside to dry. Use imagination and exaggeration in color and decoration as masks generally are more interesting if there is an element of fantasy.

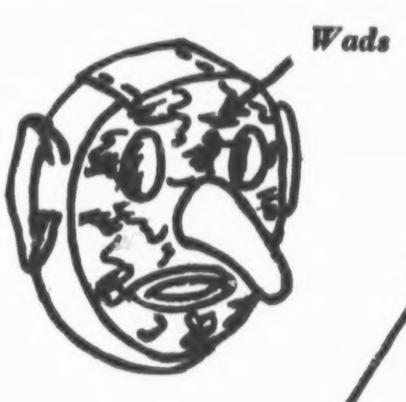
Decoration may be pasted on such as hair, eyebrows and ornaments.

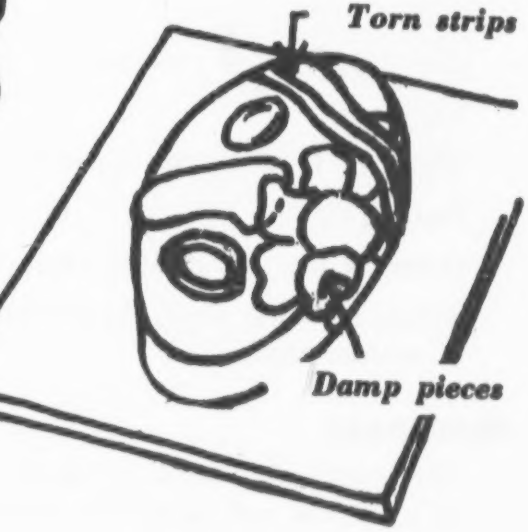
Holes are punched on each side by the ears and reinforced for elastic or string so the mask may be worn or hung on the wall.

A coat of shellac may be added as it sometimes enriches colors and makes the mask waterproof.



Paper foundation





Papier-Mâché—Mask over Clay—Age 15

Making Masks—Age 11

PAPIER-MÂCHÉ MASK—CLAY, PLASTICINE OR COCONUT FOUNDATION

EQUIPMENT AND MATERIALS

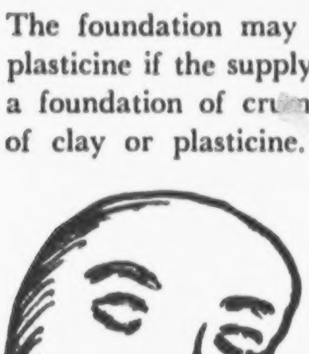
- Scissors
- Staplers and staples
- Paper clips
- Paint brushes
- Pasting board: wood, masonite, oil cloth or thick pad of newspaper
- Plaster bat
- Vaseline, liquid soap or grease
- Paper towels
- Clay, plasticine or coconut
- Newspapers
- Wheat or library paste, thinned
- Poster paint
- Gummed tape or masking tape
- Scraps of wool, cloth, yarn hair, feathers, beads, cotton, sequins

PROCEDURE

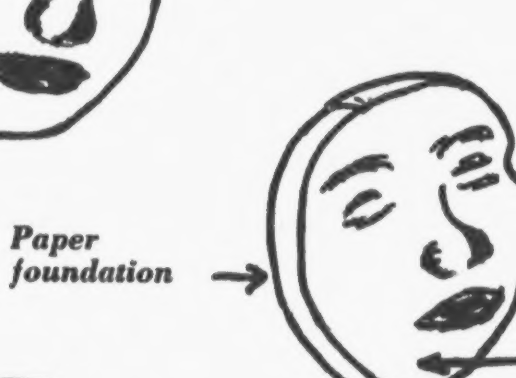
The foundation may be made of clay, plasticine, or or a coconut with plasticine features. Procedure for stripping is the same for all foundations.

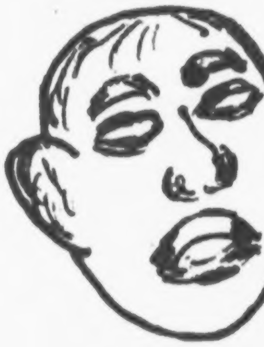
Strip only one side of a coconut. Nose, eye
eyes and mouth may be made of plasticin
applied to the coconut before stripping.

The foundation may be made entirely of c
plasticine if the supply is sufficient. Otherwise
a foundation of crumpled newspaper with a
of clay or plasticine.



Clay or plasticine





Coconut

rows,
and

ay or
cover
layer

Clay

Measure head with folded newspaper, then fasten with a paper clip at the desired size and staple. The band of folded newspaper may be about 1" wide. Place on board and pile wads of crumpled newspaper inside band. See line drawings for paper foundation.

Spread clay over the paper foundation about 1" deep. Build up features by modeling with the clay.

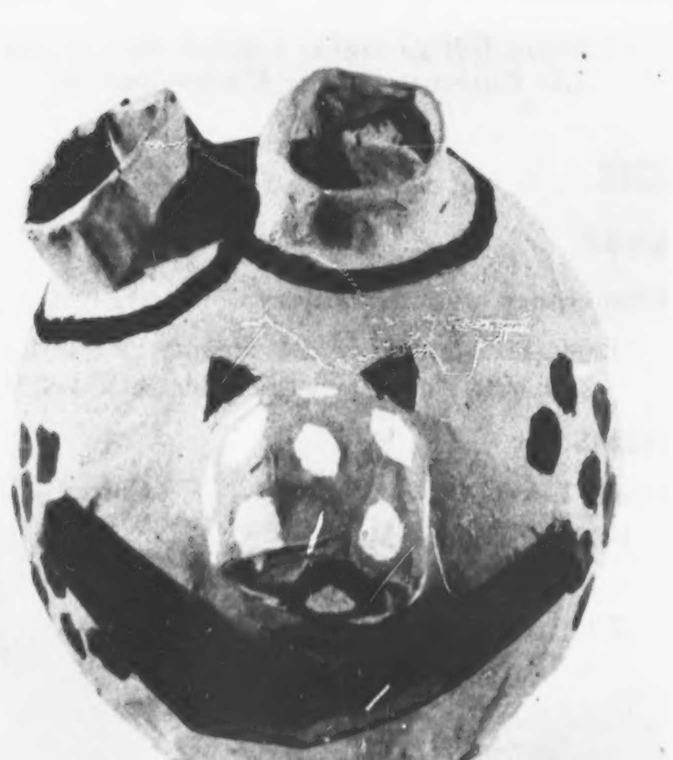
Apply vaseline and/or a piece of cheesecloth or damp pieces of paper over the foundation. If the foundation is clay, to be used again or fired, eliminate the vaseline and use cheese cloth or damp pieces of paper. Any one of these three methods may be used so the mask will not stick and can be removed from the foundation when dry. Plasticine has an oil base so strips with paste may be applied directly to it. If used on a coconut, apply vaseline to the part of coconut not covered with plasticine features.

Tear strips of newspaper and dip in paste. Criss-cross strips over this foundation, alternating one layer of plain newspaper and one layer of colored comics if comics are available. Apply four to six newspaper layers to make the mask firm.

For the last layer, dip pieces of paper toweling or paper bag in paste and overlap. After it is dry, the mask lifts easily from the clay mold if vaseline, cheesecloth or damp pieces of paper were used.

If the edge is ragged straighten with scissors and bind with a strip of paper or gummed tape. Paint and decorate.

Balloon Foundation Mask—Age 11



PAPIER-MÂCHÉ MASK—BALLOON FOUNDATION

EQUIPMENT AND MATERIALS

Scissors
Stapler and staples
Paste, liquid or wheat paste
Newspapers
Paper towels
Colored comic newspapers
String
Rubber band
Balloons, large
Balloon inflator (optional)

PROCEDURE

The balloon must be large enough to go over the head.

When it is blown to full size, it should be an inch or two larger than the head of the one who is to wear it.

After the balloon is inflated, fold over the end and twist and place rubber band securely on end.

Place balloon in a pan, bowl or basket to help hold it in place.

Apply wet pieces of paper overlapping over entire surface of balloon.

Tear long strips of newspaper about an inch wide from top to bottom of page. Draw strips through paste and place over the balloon. Each strip should overlap the previous strip.

After the balloon is completely covered, the second layer may be paper toweling or colored comic newspaper. This time the pasted strip is applied with the paste side down. Using different colors will aid in making sure that the whole mask is covered with the second layer.

Apply the second and succeeding layers in the opposite direction to the preceding one and criss-cross.

Begin pasting the third layer, using either strips of plain newspaper or paper of different color. The mask should have four to six layers to be sure the mask is strong.

Protruding features may be added while the mask is still wet. Crumple newspaper for nose, eyes and ears and fasten them to the mask with "paste-soaked strips." Apply a last layer of "paste-soaked" pieces of paper toweling.

Allow the mask to dry thoroughly in a well ventilated room so it will dry more quickly.

To deflate the balloon, remove the rubber band, then pull the balloon out. Cut out an opening at the bottom of the balloon large enough for the head of the wearer.

Find the place for eyes and cut holes for eyes with sharp knife, scissors, or single-edged razor blade. Paste strips of paper around the cut edges to reinforce them.

Paint and decorate. The mask may be waterproofed by applying shellac after decorating.

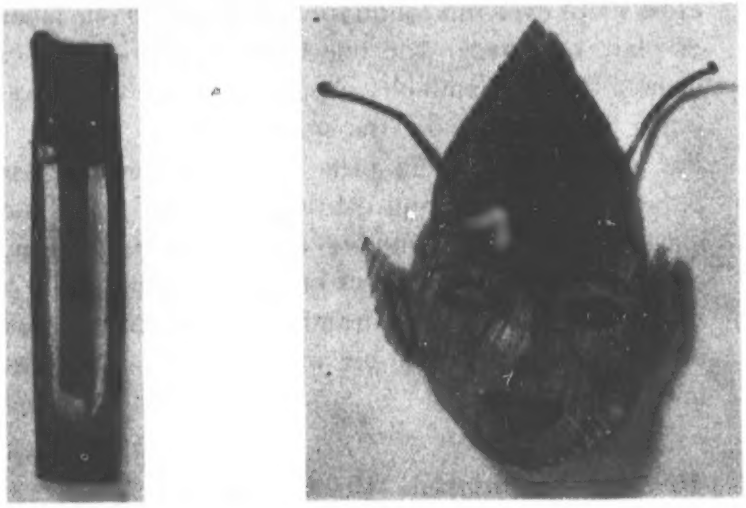
MASKS FROM THE COCONUT TREE

The coconut itself has the shape of an oval or head. It can be cut in half from end to end or used whole. Decorations can be attached to the husk. It can be carved and/or decorated with paint. A coconut is easier to carve if not too dry.

The stem of the frond of the coconut tree can be used for a mask. Use the wide base of the stem where it is attached to the trunk. It can be carved, painted or decorated. The stem is also easier to carve if not too dry.

The burlap like fabric or fiber (pliable) from the tree can be cut in the same way as the paper mask previously described so it will fit over the face. Older children may dampen the fabric with a very thin wheat paste, liquid paste or starch. Place on face and press in at eyes, shape nose, press in at mouth and take pleats under chin and staple. Let it dry to keep the shape of the face and features. Turn back raw edge and bind with masking tape or sew bias tape around the edge. Decorate with paint or other materials.

Coconut Mask—Age 10



From left to right: Carved stem — Age 13; Coconut Fabric Mask—Age 11

RESOURCES

BOOK

Elementary and Secondary

*Baranski, Matthew. *Mask Making*. Worcester, Massachusetts: The Davis Press, Inc., c1954. L.H., A.D.

FILMS

Grade Level	Title	Color	Time
K-12	Making a Mask. Creative Hands Series.	Color	6 min.
7-12	How to Make a Mask. Clay foundation.	Color	6 "

The Code used for books is as follows:

- *** — Recommended for school libraries**
- **# — Listed previously in Resources**
- **L.H. — Library of Hawaii, Music and Art Room**
- **A.A. — Honolulu Academy of Arts, Educational Department**
- **A.D. — Studio of the Art Director**

WEAVING

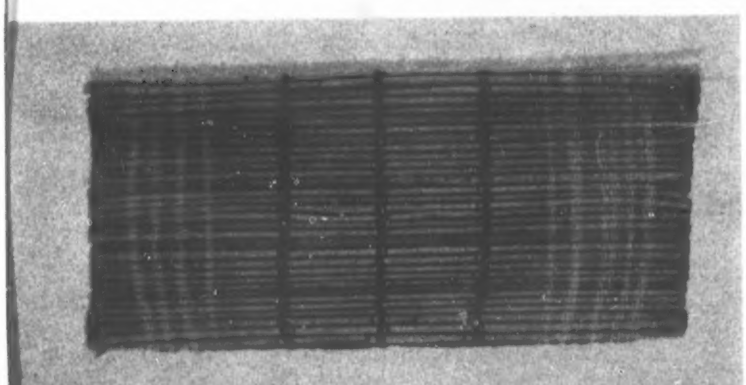
The process of weaving is the interlacing of vertical and horizontal threads or other fibers forming fabrics which are called textiles. The long foundation threads in a piece of weaving are called the warp and the threads interlacing are the woof or weft.

Clothing, handbags, draperies, upholstery materials, rugs and countless other things are made in this way on various kinds of looms from the simple handmade loom to the industrial loom in the textile mill.

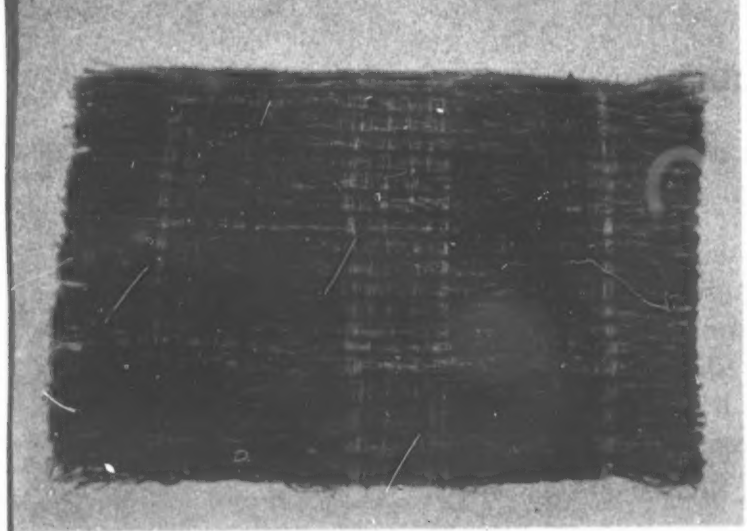
Weavers first used the under and over method as in darning. Later they lifted half of the warp threads at the same time making a **shed** or opening through which to pass the weft thread to make the second shed. This method was faster and easier and is the one still used today.

The modern loom has not changed much from the ancient one, except that it was hitched up to power about one hundred years ago. Machine looms became too mechanical. They were able to produce more elaborate patterns, but they lost the human touch so handweavers are now designing for power machines.

Creative weaving has an individual character as each weaver has an individual beat and a personal choice of color and texture. Each finished article should be the original work of the weaver and not copied from some other piece of work. Table mats, pads for hot plates, handbags, knitting bags, purses, belts, pot holders, stoles and small rugs may be woven on handmade or commercial looms in the classroom.

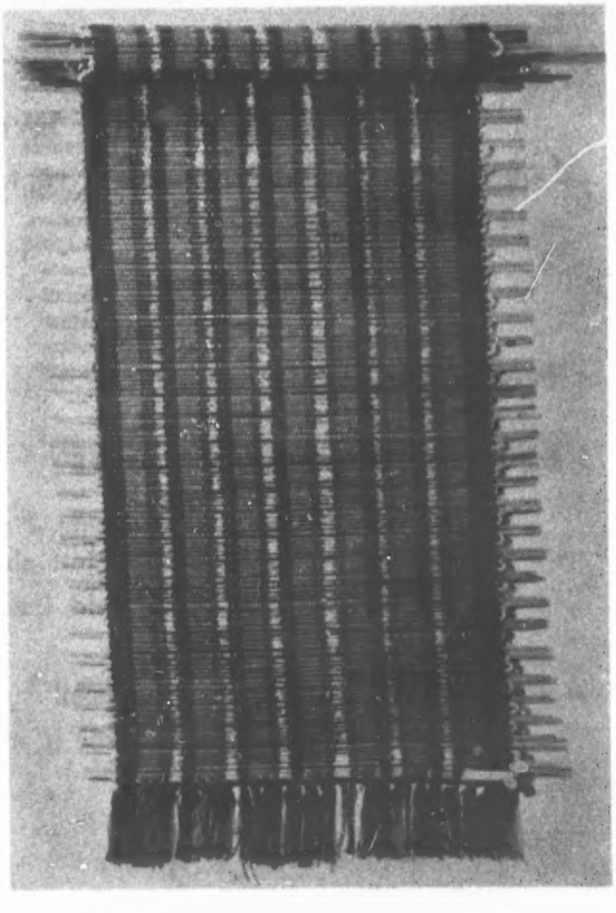


Bulrushes and Yarn —Age 11



Banyan Roots and Yarn—Age 12

Coconut Mid-ribs and yarn— Age 16

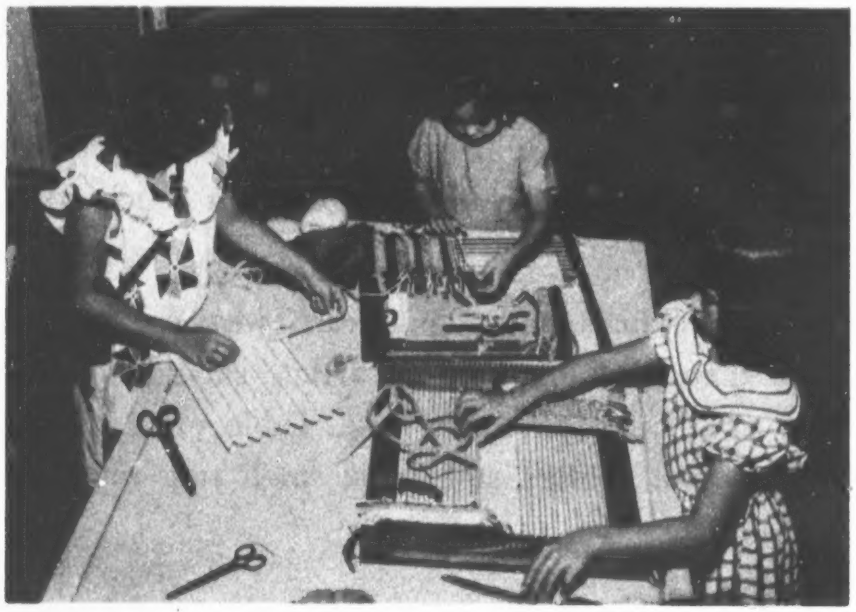


VALUES

Weaving:

- Develops sensitivity and appreciation for fine design in textiles by experimenting with different kinds of yarns and fibers, using color and texture.
- Develops rhythm in hand-mind coordination.
- Is useful in the study of other cultures and people.
- Gives satisfaction in creating a useful article.

LOOMS



Weaving on Nail and Cardboard Looms—Age 7

The following looms may be made in the classroom and serve as an introduction to weaving. Looms may be large or small, rectangular or square.

NAIL LOOM

EQUIPMENT AND MATERIALS

4 strips of wood about 3/4" wide, 2 equal in length for sides, 2 equal in length, but shorter for ends

4 nails for each corner to hold frame firm

1" finishing nails or brads

Hammer Ruler Pencil

Substitute: an old picture frame if sturdy and wide enough for nails

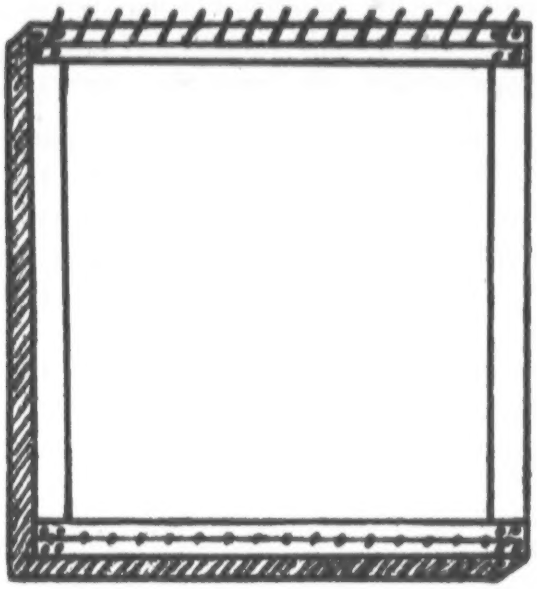
PROCEDURE

Sand wood strips well, then nail ends on top of side pieces with the four nails at each corner.

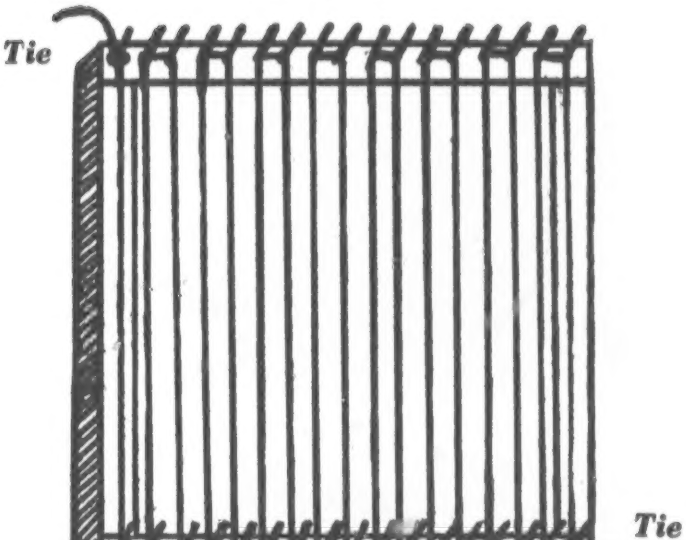
Draw pencil line with ruler down center of the two opposite sides. Carefully measure, placing dots an equal distance apart on the lines. Dots should be from 1" to 1/4" apart depending on maturity of children. Weaving is easier for very young children when threads are 1" apart.

Make an odd number of dots for an odd number of nails if selvages of the weaving on both sides are to be the same.

Hammer the 1" finishing nails halfway into the wood on the dots. Moisten each nail in water to keep wood from splitting. Be sure nails at ends are opposite each other so warp threads will be at right angles to end pieces.



Nail Loom



Warping

CARDBOARD LOOM

EQUIPMENT AND MATERIALS

Heavy cardboard (chipboard) #15

Ruler Pencil Large scissors

Chipboard may be ordered from a paper company and cut the size desired.

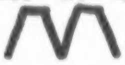
Scrap cardboard may be cut on a paper cutter.

PROCEDURE

Cut cardboard rectangular or square a little larger than the size desired for the finished piece.

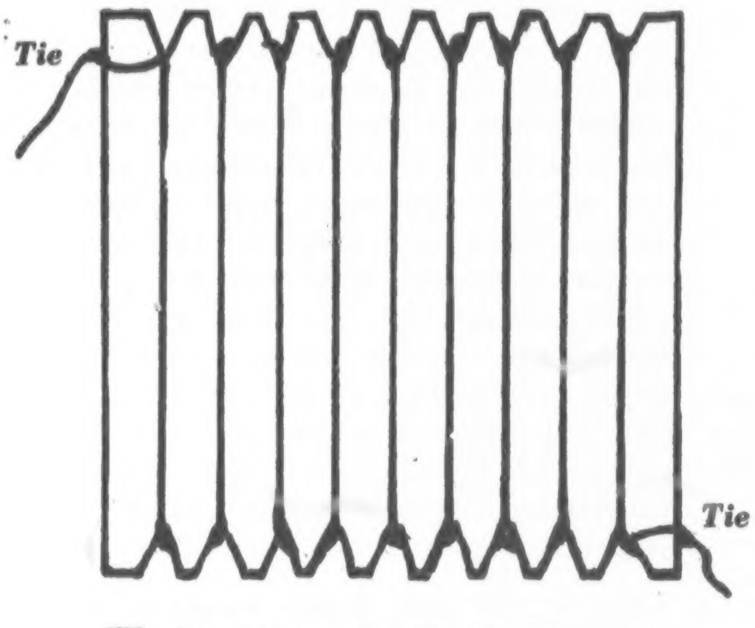
Draw pencil line with ruler 3/8" from edge of two opposite ends.

Carefully measure dots an equal distance apart on the lines from 1" to 1/4" apart depending on maturity of children. Make an odd number of dots for an odd number of notches if both selvages of the weaving are to be the same.

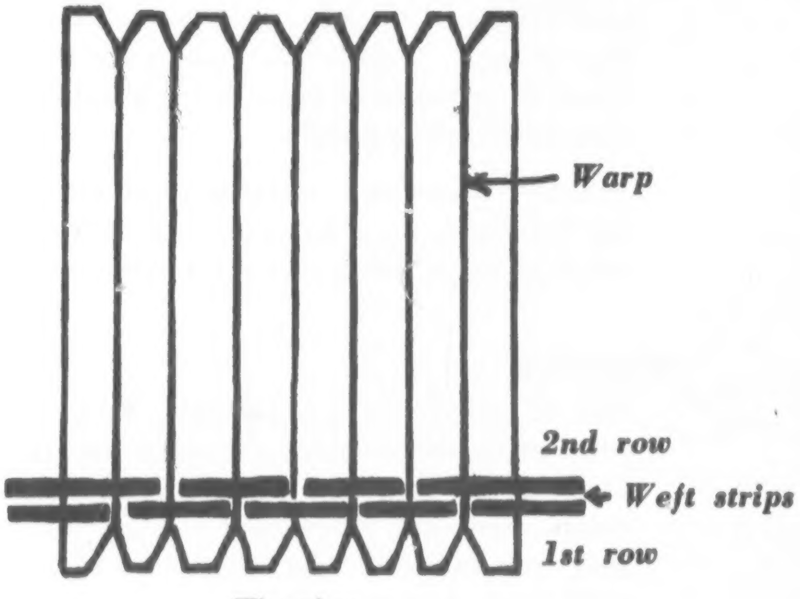
Cut notches at each dot for blunt tabs, not pointed.  Tabs

The cardboard pieces between notches are called tabs. Points on cardboard break and bend.

Be sure notches are opposite each other at ends of cardboard.



Warping



Weaving

WARPING AND WEAVING FOR YOUNGER CHILDREN

The first experience in weaving of this age group should be with warp threads 1" apart and weft cut in strips. It is too difficult for very young children to weave with a continuous thread. Weft threads or materials are usually of heavier weight than warp threads.

MATERIALS

Medium weight string or heavy crochet thread, white or colored for warp thread

Heavy yarn 1/4" in diameter, strips of cut nylon stockings, torn strips of cloth, lauhala or bamboo strips, coconut ribs or discarded ribbons for weft

WARPING FOR EITHER NAIL OR CARDBOARD LOOM

Place ball or cone of string in can or box on floor.

Hold string at first nail at top of loom or at first notch on a cardboard loom. Leave 2" or 3" hanging. Take string down to opposite end and wind around 2 nails. If loom is cardboard, wind around tab between 2 notches. Take thread up to second nail or notch and tie to end of thread that is hanging. This hanging thread may be woven in when weaving is finished. Wind around 2 nails or one tab of cardboard each time at top and bottom until the last nail or notch is reached. Try to pull the thread so as to keep an even tension. If loose, go back and tighten all the threads. Then tie the end to the warp thread which is next to the last. The hanging end may be woven in later. See two previous drawings.

These vertical warp threads should be parallel to each other and at right angles to the two opposite ends of loom. If there is a knot in the thread, cut it out. If necessary to piece the thread, tie at either end, **never in the middle.**

When children gain in experience and small muscles are developed, warp threads may be closer together and lightweight yarns used for a closer weave.

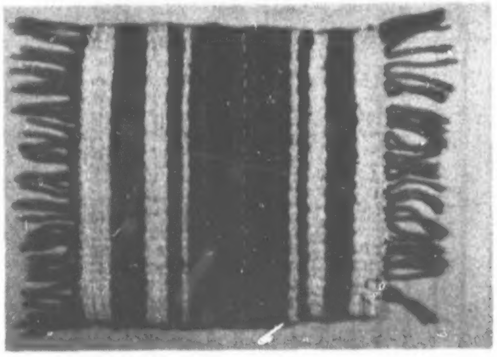
WEAVING

Cut all weft strips of yarn, cloth, native fibers or other materials into lengths 4" wider than the width of the loom. They may be of one color or of two colors alternating. When more mature, the children may wish to make wider stripes of a color in contrast to the background.

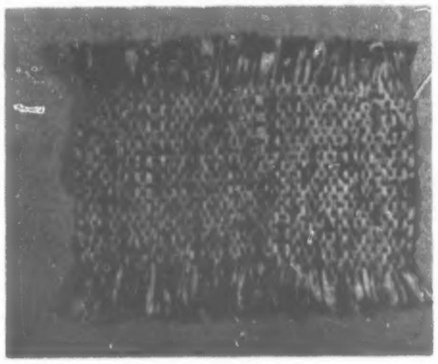
The young children like to play this game of over one and under one. Some may enjoy the experience of exploring the material, but may not complete the project. Others with a longer interest span will become enthralled and finish the weaving.

Start weaving with fingers at the **bottom** of the loom. Press the first weft thread **under** the last warp thread and over the next, alternating until the other side of the loom is reached. Leave an equal amount of weft extending on both sides of loom. Pull or comb down weft thread with fingers to the end of loom. Pass the first weft thread **under** the last warp thread and over the next, reversing the process as in darning. Repeat combing and weaving until the further end of loom is reached.

Slip piece of weaving off nails or off notches if on a cardboard loom and trim fringe on side edges. Stitch sides on a sewing machine or overcast by hand.



Yarn with Fringe added —Age 12



Yarn and Cloth —Age 13

WARPING AND WEAVING FOR OLDER PUPILS

Older pupils including high school students may weave on looms with warp threads closer together. Warp threads or weft threads may be one or more colors, alternating or in stripes and different in texture or weight. Threads may also be double to give a closer weave.

EQUIPMENT AND MATERIALS

Warp thread: string, carpet warp or crotchet thread white or colored

Weft thread: yarns of any weight, nylon stockings cut in strips, torn cloth strips, native fibers, metal threads and cellophane

Needles about 1/2" wide made of cardboard, bamboo or thin wood such as a tongue depressor. Make a blunt point on one end of wood and punch or drill a hole on the other end. A bamboo fisherman's net needle is excellent.

Comb, wide toothed

WARPING

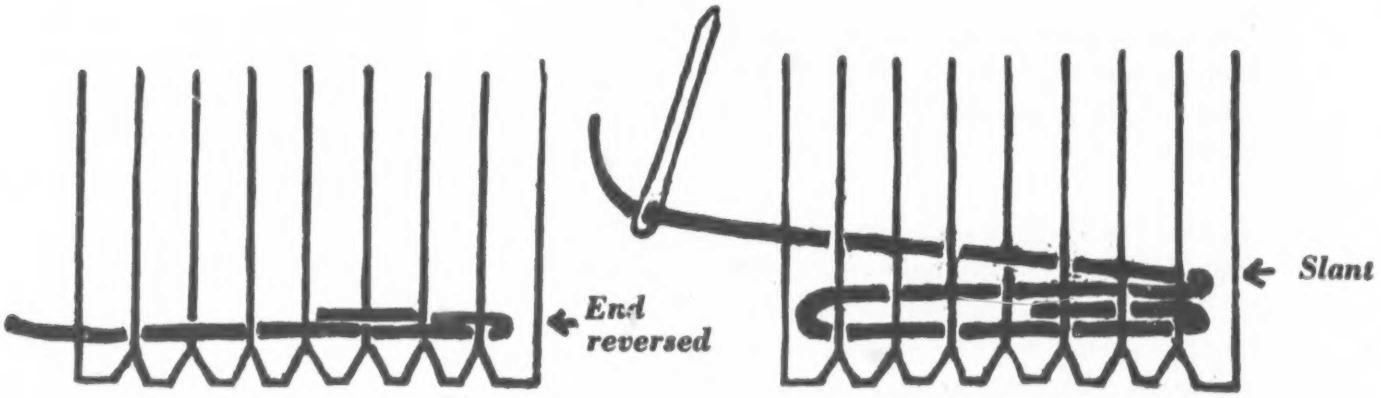
Follow directions for warping under **Warping and Weaving for Younger Children.** Tie a new thread of the same or different color to the old one at either end of loom, never in the middle. If there is a knot in any warp thread, cut it out and tie warp at either end of the loom.

WEAVING

Older children may weave with strips or with a continuous thread. Cut thread a length for easy handling. If too long, it will tangle. Weave with fingers or tie thread at hole in needle described under **Materials.**

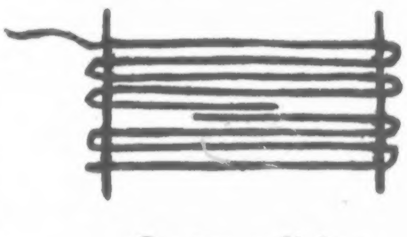
Pass weft thread under and over warp threads, alternating until the other side of loom is reached and leaving about two inches hanging. Take this hanging end between the thumb and fingers and pass it around the last warp thread and then back over and the warp threads as far as it will go. Pull or comb down the weft thread with fingers or the wide toothed comb to the end of the loom.

For the second row of weaving reverse the direction with the weft thread always alternating either over or under every warp thread. Hold this at a slight **slant** and be sure it is not pulling the last warp or selvage thread too tight. **Warp threads must be parallel and at right angles to weft threads at all times.**

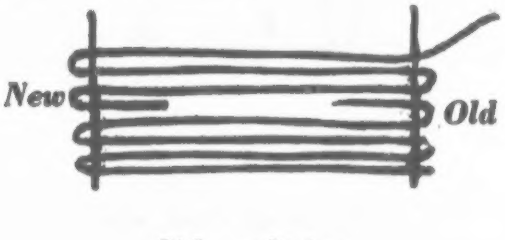


Weaving with continuous weft

Comb down the slanting weft thread and continue the process. When a new piece of thread is needed, lay it alongside the end of the old one at the center of the loom if it is the same color. This is called **splicing.** If a new color is to be introduced, turn back the end of the old color about 2" and weave it in as far as it will go at one side or selvage. Weave the new color in at the opposite side or selvage, turn back the end and weave it in as far as it will go.

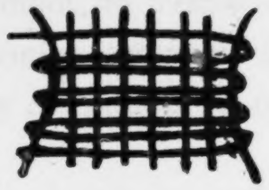


Center splicing for same color



Side splicing for new color

Beginners have a tendency to pull the weft thread too tight causing the selvage to be pulled in forming a waist. Keep the selvages straight and at right angles to the ends of loom at all times.



Waist

Continue the weaving process to the end of the loom. Cut weft, leaving about 3" hanging and weave it back along the end of the woven piece so it does not show. Pull the piece of weaving off the nails or off notches if on a cardboard loom. Fringe may be tied on as in photograph if desired.

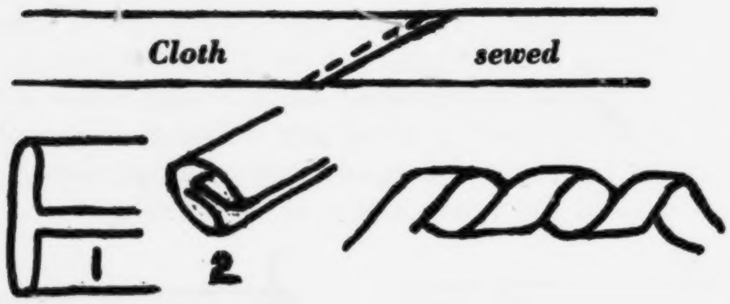
SUGGESTIONS

In splicing or joining heavy yarns used as weft, tear or cut off half of the thickness of the old and new ends for about 1½". This avoids a lumpy place at the joining.

Cut native fibers long enough to project out from both sides of the weaving. After the piece is finished, trim the fibers suitable in length to the size of the project.

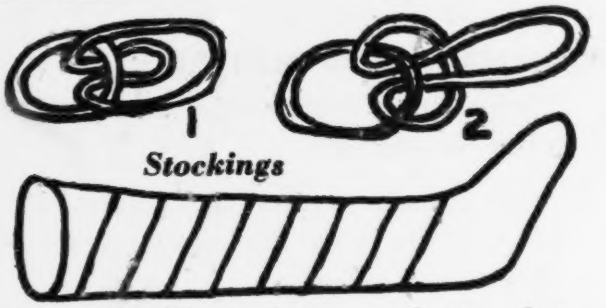
Cut or tear strips of cloth lengthwise of the material and sew together diagonally if heavyweight. If lightweight, taper ends of both pieces and splice just like yarn by laying one beside the other in the center of the loom. Add a new color at the selvage.

Cloth folded or twisted



Strips of cloth may be folded into the center on both sides or twisted to hide cut or torn edge. Fold cellophane likewise to make it stronger.

Nylon stockings may be cut into loops or in a long continuous spiral, round and round, 1½" wide from the top of the leg to the heel. Place hand inside while cutting the spiral with the other hand. Jersey cotton or silk underwear is best cut round and round or across the width.



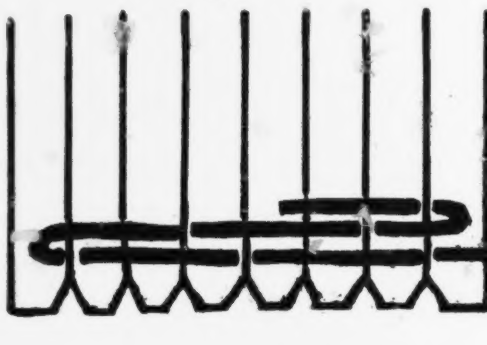
Stockings

In weaving with silk stockings or jersey always leave the weft on a good slant and do not pull it tight when combing down. All jersey is elastic and tends to shrink after washing.

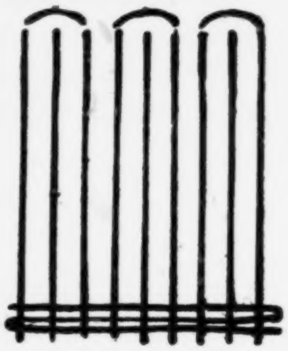
VARIATIONS

Encourage pupils to experiment with different colors and textures or to vary the weave. Avoid using too many colors or too strong a contrast in weaving. Weft threads may go **under one and over two,** or **under two and over two** warp threads. Even more threads may be skipped. Another variation may be accomplished by reversing the process in opposite rows. A checkerboard pattern can be made by using yarn the same weight for both weft and warp and alternating warp stripes in different colors.

Under one and over two

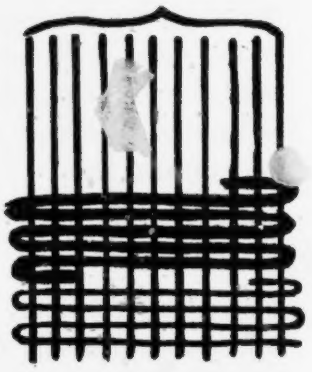


Warp, more than one color



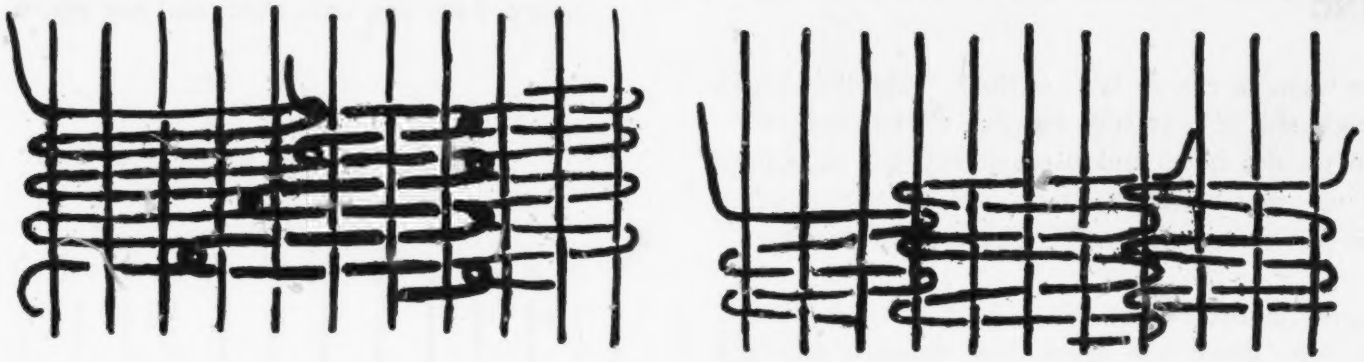
Weft, one color and same weight as warp

Warp one color



Weft stripes, more than one color

Patterns or designs of a contrasting color to the background may be laid or pieced in beside the background color. This is done by interlacing where joined so there are no slits or holes between the colors. The two colors adjoining will go around the same warp thread. The weaver will be weaving with several weft threads across the warp. An abstract design of simple shapes may be drawn directly on a cardboard loom and weft woven in to follow the pattern underneath.

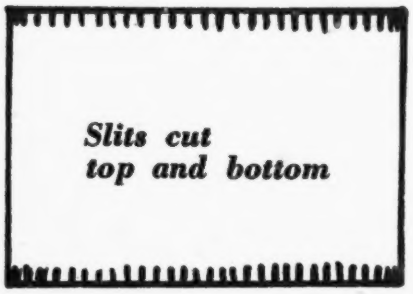

Joined by looping

Joined by going around the same warp thread

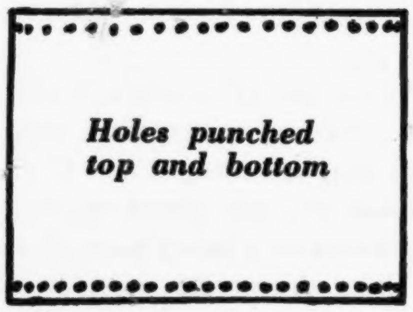
Two methods for pattern weaving, using more than one color for weft

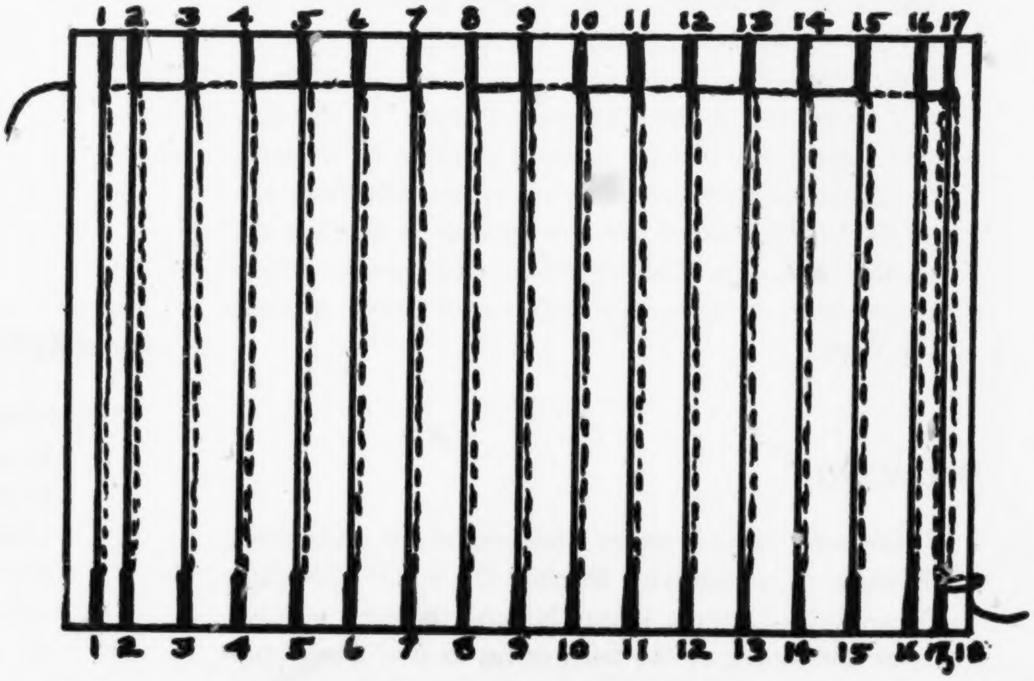
WEAVING ON TWO SIDES OF A CARDBOARD LOOM

A handbag may be made "all in one" on a cardboard loom, eliminating the need of sewing sides together. The warp is wrapped around both sides of the cardboard and the weft is taken continuously around the front and back. Cut slits 1/4" deep or punch holes at top and bottom of the cardboard instead of notches. Measurements must be accurate and slits exactly the same length and opposite each other at top and bottom. Spaces between slits may be 1/4" apart except the first and last slits which should be 1/8" from each side.



or





Warp threads on back shown by dotted lines

MATERIALS

Carpet warp or heavy crochet thread for warp.

Yarns and pliable fibers like raffia and lauhala for weft.

WARPING

Place warp in can or box on floor. Take the thread through slit #1 at top, leaving 2" hanging, then down on the front and through slit #1 at bottom and up the back of cardboard to the starting place. Tie to hanging end, pulling thread tight.

a. Carry thread behind tab at back through slit #2 at top, down the front and through slit #2 at bottom and up the back of cardboard through slit #2 at top.

b. Carry thread in front of tab over and through slit #3 at top, down the back of the cardboard and through slit #3 at bottom, up the front of the cardboard and through slit #3 again.

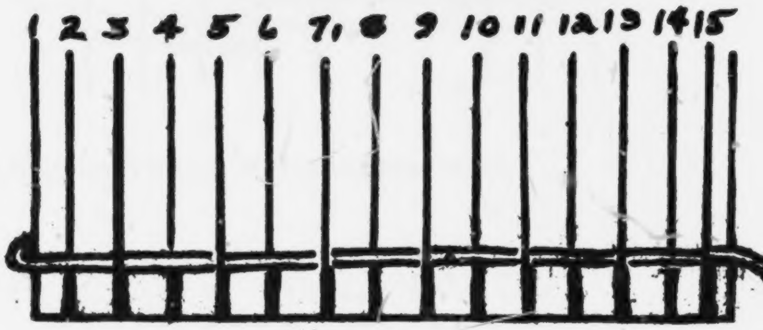
Repeat a and b, pulling thread tight each time until the loom is threaded. **There must be an odd number of warp threads** to carry the weft continuously around the loom. When the last slit is reached at top, carry the thread down the back of cardboard through the last slit at bottom and up the front to the top, then down the back again to the bottom and tie at the bottom. This will give the extra thread needed for an odd number. There will be two warp threads together in the last slit on the back so there will be an odd number of warp threads. In the diagram there are 17 + 18 threads, totaling 35 threads. It makes no difference how many threads there are on the front if there are **two threads in the last slit on the back.** It will always be an odd number which is necessary to carry the weft continuously around the loom.

WEAVING

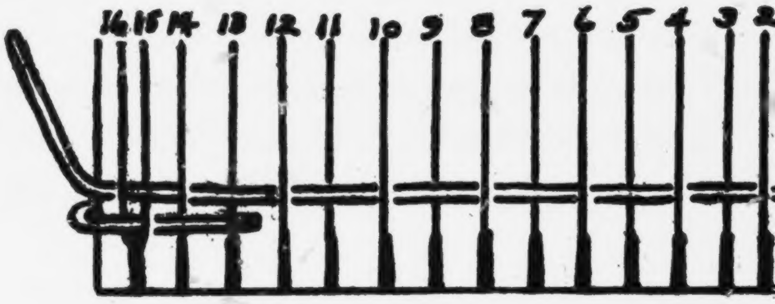
Take weft thread under and over warp threads at bottom of cardboard leaving 2" or 3" hanging. Weave this hanging thread around the edge of loom over and under at the back as far as it will go. Continue weaving and packing weft threads for a close weave. Be sure to use the **double** warp threads at back of loom separately to keep an odd number o warp threads. Pull weft at a slant as in diagram fo continuous weft. Then comb down the weft with a wide toothed comb.

Continue weaving to top of loom. When weaving i finished, pull threads off tabs and remove card board. Line bag with cloth and sew zipper at top.

Threads



Front



Back

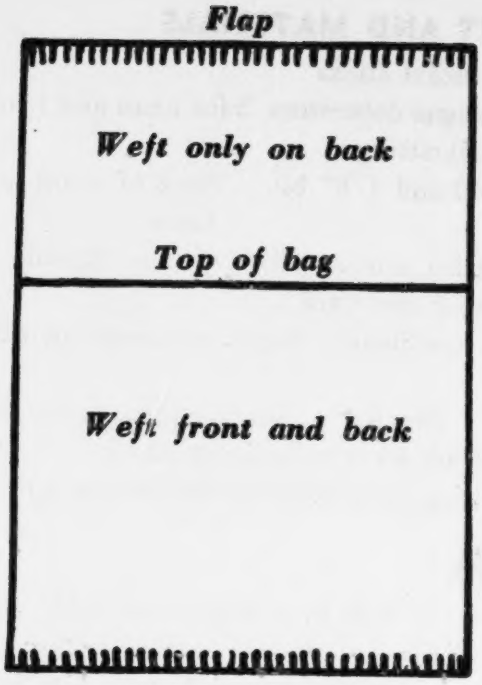
SUGGESTED VARIATIONS

Drawstring Bag

Weave down from top of cardboard about 2" Measure two pieces of heavy yarn twice th width of loom plus an extra 3" or 4" for th drawstring. Twist the two pieces together an weave it in or weave in a heavy piece of cordin or a ribbon. The drawstring must be wover around twice in order to close the bag. Continue weaving from the bottom up to the drawstrings

Envelope Bag with Flap

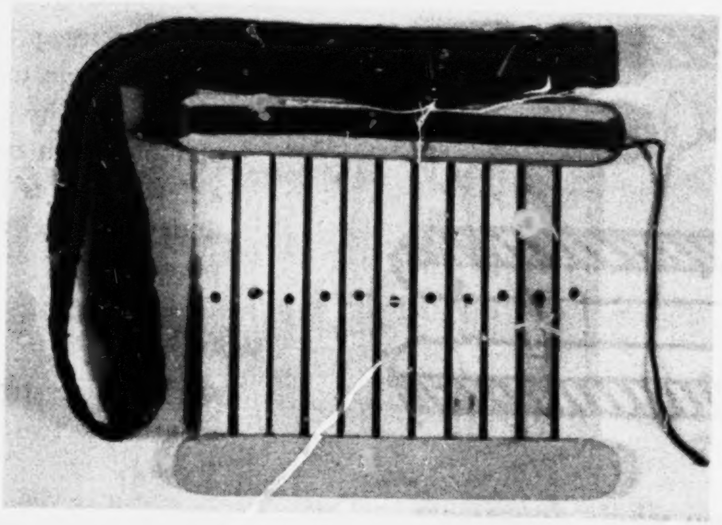
Extend the depth of the loom to allow for a flap, cutting slits at top and bottom as before. Start weaving at bottom of loom, carrying weft around from front to back until the desired height is reached for bag. Now weave only on the back of the loom for the flap. Cut the warp threads on the front of the flap halfway between edge of flap and top of bag. Remove cardboard. Tie the cut warp threads together two at a time. These will be hidden by the lining. Use a loop and button or a snap for closing.



Loom extended for envelope bag

BELT LOOM

Also Called Tee-Dee or Chair-back Loom.



Tee-Dee Belt Loom—Age 13

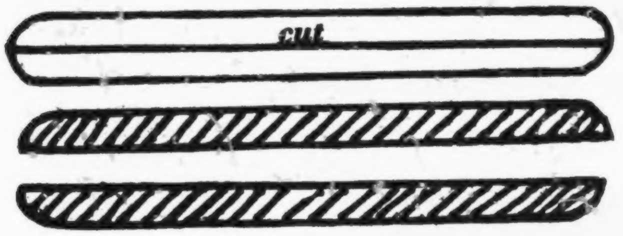
This type of rigid heddle loom makes weaving faster and easier than the darning method. It lifts half the warp threads at one time, providing the first shed or opening for the weft thread to go through. Pulling it down gives the second shed for the weft. A longer weft thread may be used by winding it on a shuttle because there is room in the shed for the passing of the shuttle. This method helps students understand how weaving is done on commercial looms.

EQUIPMENT AND MATERIALS

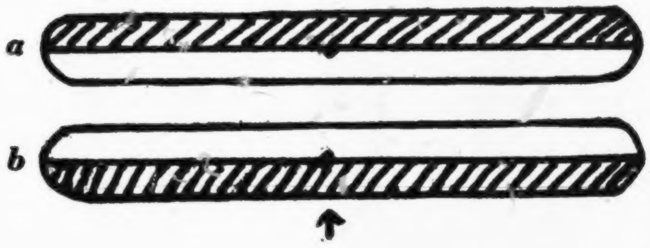
11 milk nickel sticks
6 large tongue depressors, 5 for loom and 1 for beater
Glue, quicksetting
Hand drill and 1/8" bit   Piece of wood to protect table
Warp: string, carpet warp, crochet thread
Weft: string and yarn
Shuttles: cardboard, tongue depressor or other thin wood
Rulers   Pencils   Single-edged razor blades
White string for a measuring string
Heavy string for attaching ends of warp to supports

PROCEDURE

If an electric drill in a shop is available, have 1/8" holes drilled in all the milk nickel sticks. Otherwise have one student hold several sticks together on the piece of wood after marking the center of the top one. Another student can drill the holes with the hand drill. Caution against drilling through the wood to the table.



Two halves of one depressor



Halves glued to two whole depressors

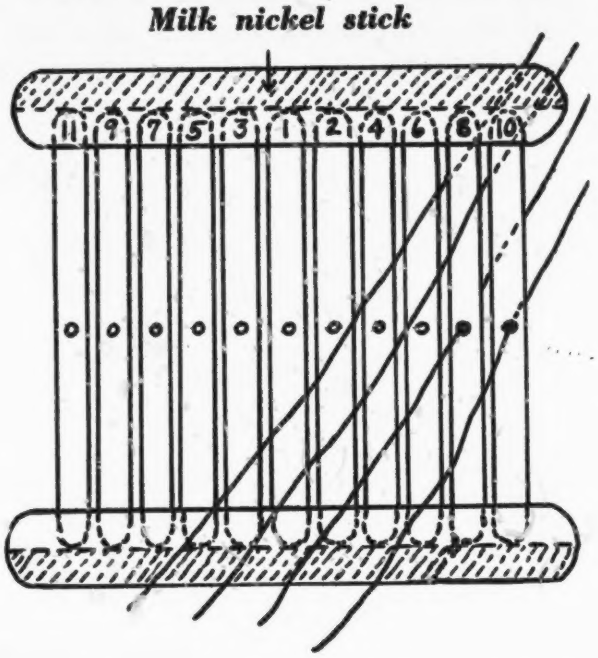
Draw a line down center of one tongue depressor and cut with razor blade.

Sand holes made in milk nickel sticks and also the cut edges of the tongue depressor if rough.

Glue the two halves of depressor two whole depressors with curved ends meeting. Be sure to use enough glue. Mark center on each with a dot.

Place one milk nickel stick #1 flat directly in the center perpendicular to each of the tongue depressors and flush with the half depressor already glued on.

Glue the remaining 10 milk nickel sticks in place, leaving space between sticks equal to the thickness of one stick which is about 1/16". Glue #2, then #3 and so on, working from the center.



Warp threads through each hole and each space

When glue on milk nickel sticks is set, apply glue to two whole tongue depressors, one at a time, and place over the other depressors at top and bottom of loom, with curved ends meeting. Hold down for a few minutes until glue is set. Place in press or under weight to keep wood from warping. See photograph.

WARPING

Cut a white string equal to student's waist measurement plus two feet for measuring length of warp threads.

Choose colors for warp and cut 21 strands the same length as the measuring string. These strands are for 11 holes and 10 spaces.

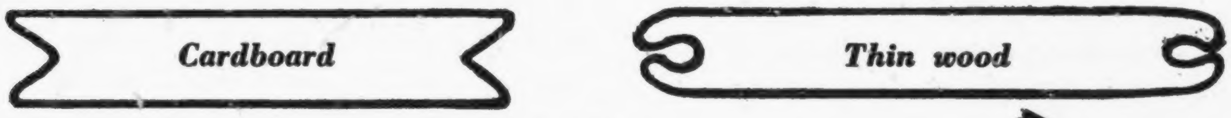
Warp threads may vary in color or weight. There may be either one or two warp threads in each hole or space. Two threads together will increase the weight and make a closer weave. The warp may be arranged in stripes and to keep the stripes, use a weft of the same weight as the warp or slightly lighter weight.

Thread the loom, one thread in each hole and one in each space between holes. Use two strands at each edge for a stronger selvage if desired. Check to see if any holes or spaces were skipped.

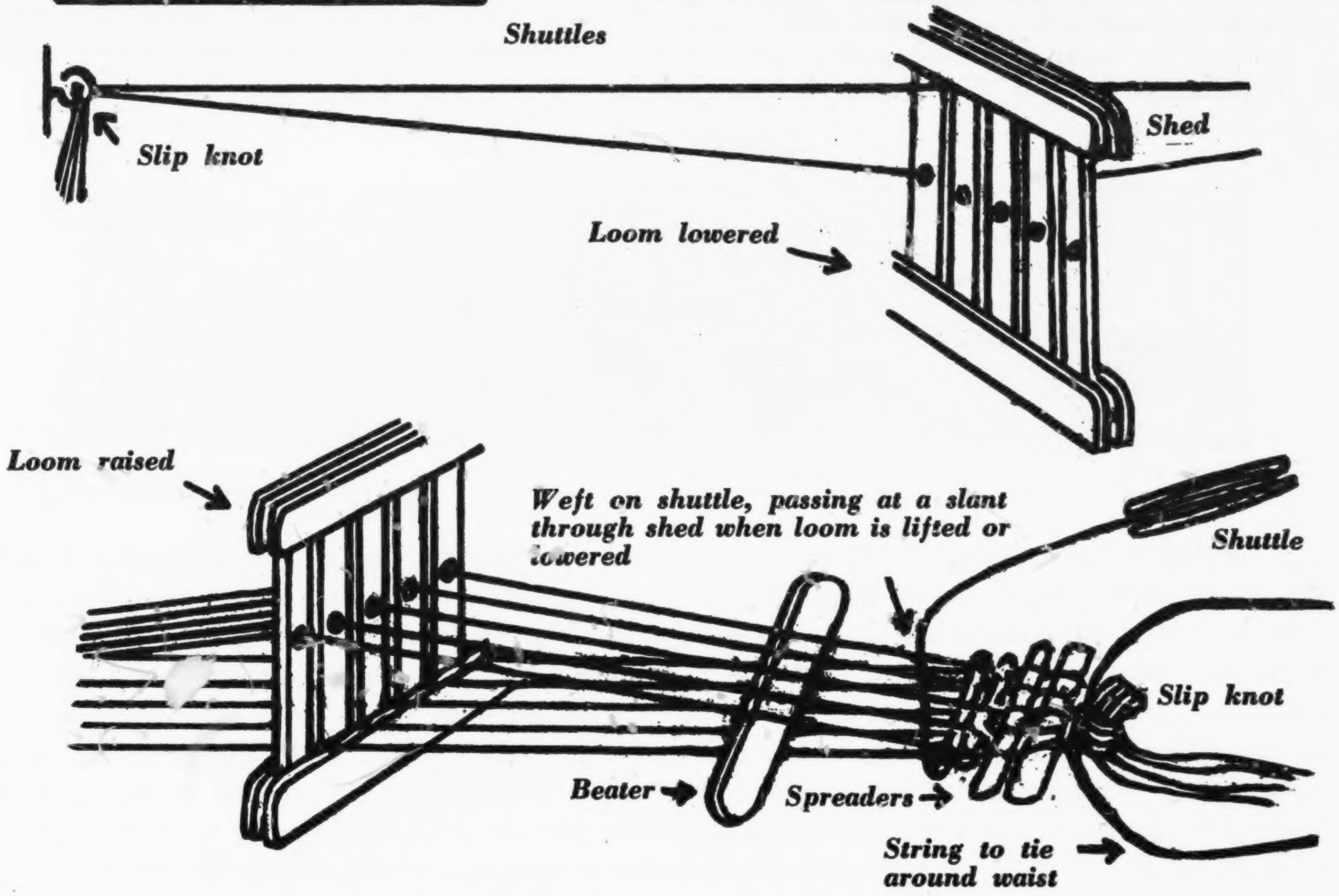
Even up threads and tie all the threads together in a tight knot on one side of the loom or each thread may be tied separately to a small stick or pencil. Leave ends extending if a fringe is desired.

WEAVING

When the loom is lifted, every other thread goes up, leaving a **shed.** Insert a milk nickel stick for a spreader. Lower the loom and another shed is formed. Insert a second milk nickel stick. Cardboard or folded wrapping paper may be used instead of the sticks. This spreads the warp threads for weaving as is done on a commercial loom.


Cardboard
Thin wood

Shuttles


Slip knot
Shed
Loom lowered
Loom raised
Weft on shuttle, passing at a slant through shed when loom is lifted or lowered
Shuttle
Slip knot
Beater
Spreaders
String to tie around waist

Secure the tied ends of the warp threads to a cup hook, door knob, chair or other permanent place.

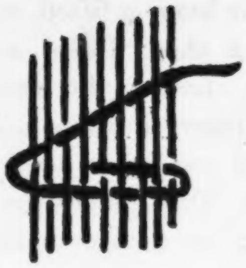
Shake and comb the threads with fingers to remove tangles, then pull so all are of the same tension. Tie these threads in a tight knot and then tie knot to a belt or string around the waist. **Warp threads must be kept taut during weaving.**

Make a shuttle of cardboard, tongue depressor or other thin wood about 1½" by 6" and cut notches on both ends. Sand notches on a wood shuttle.

Tie the end of the weft thread around the middle of the shuttle and wind the thread from end to end. Do not make it too thick or it won't go through the shed.

Have a tongue depressor ready for a beater.

Raise loom for shed and pass shuttle through, bringing **first weft thread** to other side and leaving the end hanging. **Lower** loom to change shed. With fingers and thumb pass hanging thread around last warp thread and lay it in the shed. Bring shuttle back through this shed, taking **second weft thread** at a slight slant. Allow the thread to ease into place, but do not leave a loop at the edge. **Raise** loom to change shed. Insert beater and push second weft thread against the first. Avoid pulling weft thread too tight against the selvage warp thread as the warp must remain straight. Keep the same tension on the weft thread throughout the length of the belt to keep the width even. Mark width on beater as a guide.



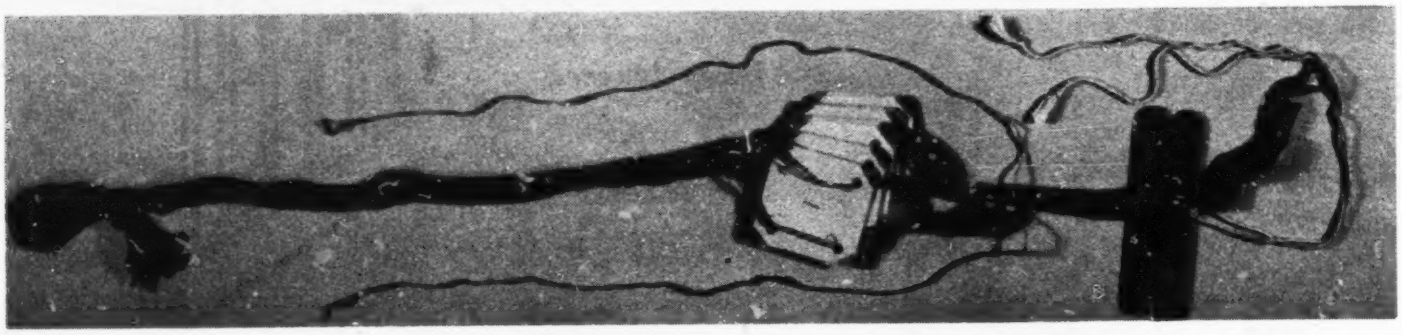
The loom is raised or lowered to form a new shed each time the direction of the weaving is changed.

Beat or push the threads close together with the tongue depressor **after** each new shed is formed and **before** the weft thread is sent through.

Occasionally loosen string around waist and roll up the belt a little to keep the weaving close to the weaver. Crisscross some string around it and tie it. Tie string around waist again and proceed with weaving. Weave until the desired length is reached.

Finishing: See at end of Card Weaving.

CARD WEAVING



Card Loom with Double Weft

Card weaving was practiced in ancient Egypt so it is sometimes called Egyptian Card Weaving. The cards form a simple loom. Warp threads pass through holes in the four corners of the cards, forming a shed through which the weft thread passes. By using various colors in a definite order in the threading of the cards and by turning them in regular sequence, pattern variations result. Color and pattern are in the warp. The weft thread is seen only on the edge and should be of the same weight as the warp thread. It shows less if it is also the same color as those warp threads which are on the outside or selvage edges. There are many more warp threads in the card loom than in the Tee-Dee Loom so it gives a closer weave like the inkle loom or like a commercial loom with two or more heddles. It forms a four-ply braid or strip and is very strong. Therefore it is good for belts, wristbands for watches, hatbands and handles for handbags or tote bags. Strips may be woven and sewed together to make a purse or other type bag.

EQUIPMENT AND MATERIALS

Cards from thin stiff bristol, tagboard, other cardboard or discarded playing cards. A thick card breaks the warp threads.

Warp and weft threads: strong firm string, carpet warp or medium and heavyweight crochet thread of cotton or rayon, not fuzzy or stiff. Linen or hard-twisted thread are not good for card weaving.

Tongue depressor or ruler for a beater

White string for a measuring string

Heavy string for attaching ends of warp to supports

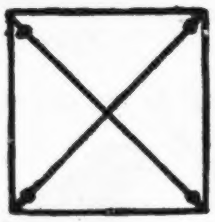
Punch, the kind that is held in the hand and makes a single hole

Papercutter Scissors Rulers Pencils

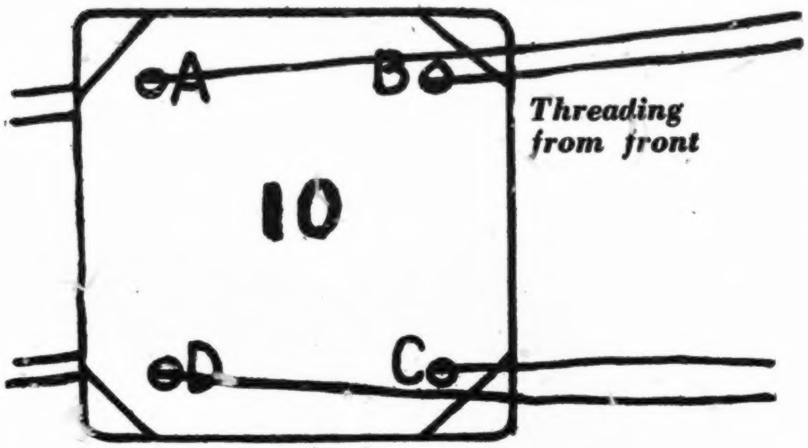
Colored wax crayons

PROCEDURE

Cards: The number of cards depends on the width of weaving desired and the weight of the threads used. A strip 1" wide will require 15 cards if carpet wrap is used for both warp and weft. It will take only about 10 cards if a heavier thread is used. Cards may be 2½" to 3½" square depending on the size of the weaver's hands.



Measure cardboard into 2½" squares and cut with scissors or paper cutter. Keep one card for a pattern. Draw pencil lines with ruler from corner to corner on pattern. Place a dot on the pencil line 3/4" from each corner. Punch each hole directly over the dot. Round corners of each card slightly with scissors. Label holes clockwise A, B, C, and D on each card. Mark each corner a different color using the same four colors on each card, as red for A, green for B, orange for C and blue for D corners. Number each card in the center 1, 2, 3, 4, in succession depending on number of cards used. Stack cards 1 to 10 with #10 on top and letter A in upper left-hand corner.



Threading from front

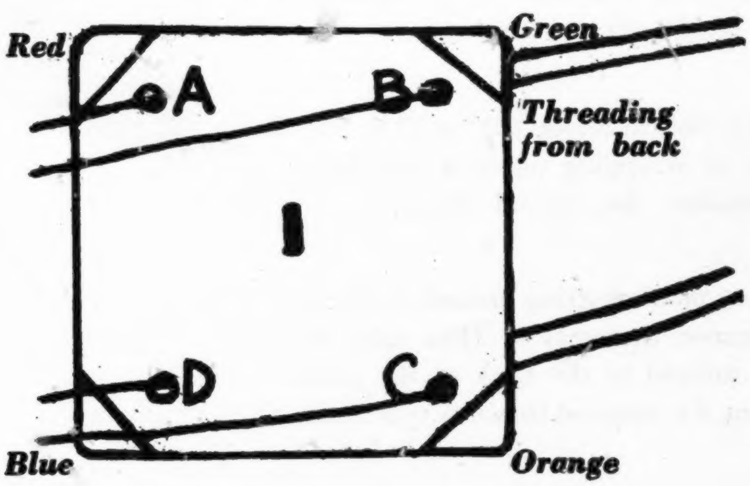
WARPING

Take waist measure for belt, using white string for measuring and add 2 feet extra for length of warp. This substitute for a tape measure may be used for length of wrap threads needed. If there are 10 cards, there will be 10 x 4 (holes) or 40 warp threads needed. Each card is threaded separately with a wrap thread in each of the four holes A, B, C and D.

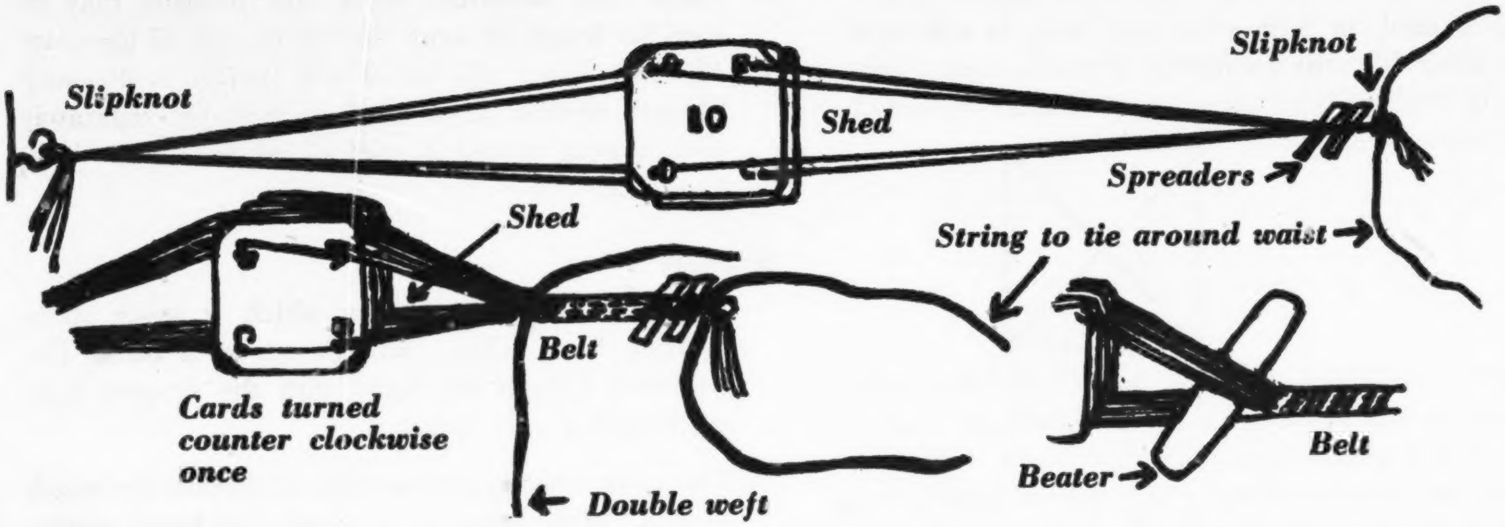
DESIGN

Design an original pattern which is much more exciting than using a pattern out of a book. The following suggestions begin with the simplest type of threading and weaving.

One color with no pattern. Cut all threads the length needed. With letter A in upper left-hand corner, thread four threads through four holes on card #10 from back of card to front or vice versa, but thread all cards in the same direction. See first drawing. Even up the group of four threads on one end and tie together in a slip knot. Then do the same with the four threads on the other end so the card will not slip off the threads. Repeat this process for each card, stacking one card over another until #1 card is on the top. All the A's must be under each other and in the upper left-hand corner of the stack of cards. Tie a string or place a rubber band around the cards to hold them together.



Threading from back


Slipknot
10
Shed
Slipknot
Spreaders
String to tie around waist
Shed
Belt
Cards turned counter clockwise once
Double weft
Beater
Belt

When the threading is finished, untie all the slip knots on one end of all the warp threads and tie together in a **tight slip knot.** Attach to a hook, doorknob or other support. Untie the other ends of the warp and straighten it by shaking and combing with fingers. Pull threads taut for **even tension** and tie these in a tight slip knot. The cards will be in the center. See second drawing. If the warp is too long for easy handling, tie another slip knot between the cards and the further end. Attach this knot to the support. Tie the cards together until ready to weave.

WEAVING

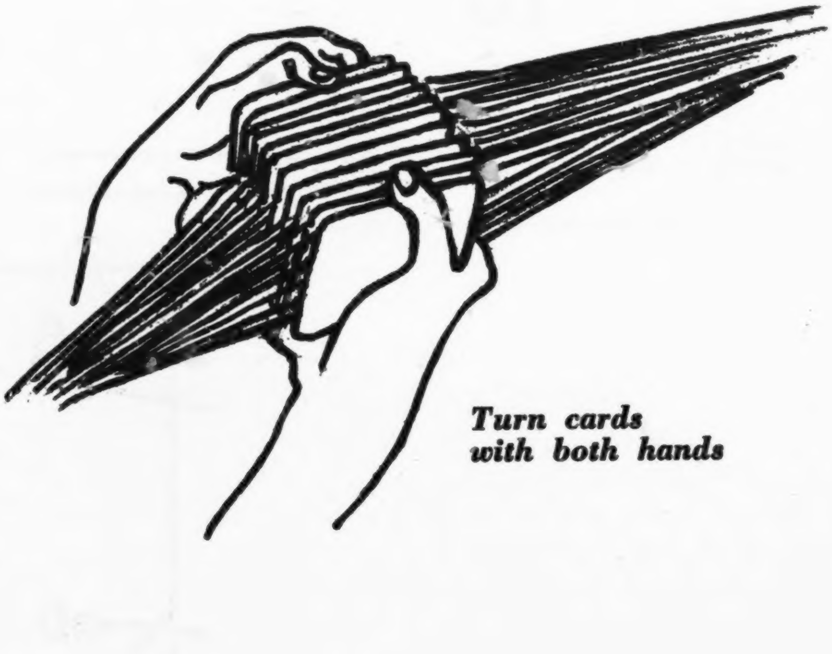
Cut a weft thread about 2 yards long which will be used without a shuttle for a double weft. If a single weft is preferred, wind weft on a shuttle.

Cut two pieces of cardboard about 1/2" x 3" or fold each of two pieces of wrapping paper a few times until firm for spreaders. See second drawing.

Tie center of a heavy piece of string around the front of the slip knot nearest the weaver. Then take the ends of the string around to the back of the waist and tie in a bowknot. Or suspend between two chairs or other support.

Notice that the cards are in a vertical position with one group of threads at top and another group of threads at bottom forming a shed or opening. Slip one cardboard 1/2" x 3" or the folded wrapping paper spreader into the shed.

With both hands turn cards twice counterclockwise toward the weaver so corner C will take the place of corner A. Insert the other cardboard and push it close to the first one. Turn cards all the way



Turn cards with both hands

around until A is back in its original place. This spreads the warp threads so they will be straight. Insert tongue depressor (beater) or ruler into shed and beat or push the second piece of cardboard firmly against the first one.

Pass the 2 yard length of weft thread through shed, leaving an end hanging on both sides about 1 yard long. Use both hands for turning cards. Hold them with thumbs on top and fingers underneath. Hold cards loosely so they will make the turn easily. Turn cards counterclockwise so B takes the place of A. Insert both ends of weft thread into the new shed, crossing each other. Pull ends firmly, but not too tight. This double weft makes a firm weave and strong even edges. The weft will be covered completely except on the edges. If a loop is sticking out on the edge, it is easy to pull the thread and eliminate it. Insert beater and push weft thread firmly against the preceding one. Repeat this process, turning cards counterclockwise one fourth of the way around each time to change the shed. **Insert thread, change shed and beat** until finished.

If weaving is interrupted or put away, tie cards together or use a rubber band.

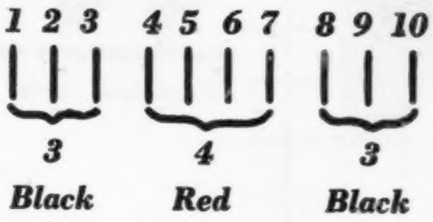
When a new thread is needed, let the ends of the old one hang out, turn the cards to change the shed and insert the new one 2 yards long as before. After another inch or two of weaving, cut the hanging ends off.

When the threads on the other side of the cards get twisted and weaving is difficult, untie the knot, straighten the threads and tie the knot again.

STRIPES LENGTHWISE

Choose colors for stripes, preferably 2 or 3 colors. The warp threads in the four holes of each card must be the same color to have a continuous stripe, but only one of each four will be visible on the surface of the finished belt. This will be one thin stripe, one stitch wide. For a wider stripe, use two or more cards threaded with the same color as in diagram below. Three cards adjacent to each other will give a strips form 5/16 to 1/4" depending on the weight of thread.

Cards



Plan the colors for the ten cards and cut desired length.

Follow directions for warping and weaving described for using one color throughout. Use a weft thread the same color and weight as the warp threads used on the selvage edges. In the plan above it would be black.

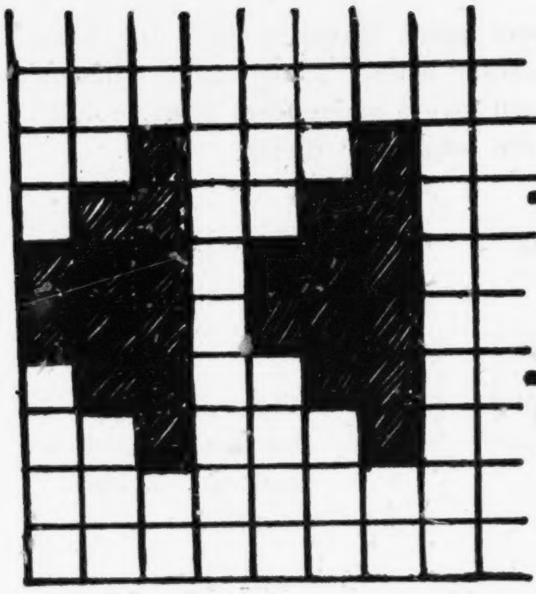
Another variation can be made by putting a different color in each hole and threading **all** cards the same. Choose the colors desired.

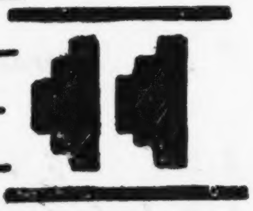
A	*B*	*C*	*D*
black	*orange*	*gray*	*yellow*

DRAFT DESIGN

Draw a draft of an original design on squared paper marked off in 1/4" squares. Simple designs of large areas are best. The design may be symmetrical or not depending on the designer. Several squares of one color adjacent to each other make a larger motif which can be seen more easily in the weaving.

Use any colors, but remember to have contrast in dark and light or the pattern will be lost. A combination of a brilliant color with a dark and a light color is best for card weaving. Color the squares with colored pencils or wax crayons. The following draft is not to be copied, but to show how to proceed to make one.





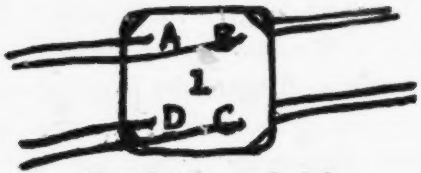
Finished belt

For the above pattern thread cards in this way.

Cards	Holes-A	B	C	D
1.	black	black	black	black
2.	white	white	white	white
3.	white	white	black	white
4.	white	black	black	white
5.	black	black	black	white
6.	black	black	black	white
7.	white	black	black	white
8.	white	white	black	white
9.	white	white	white	white
10.	black	black	black	black

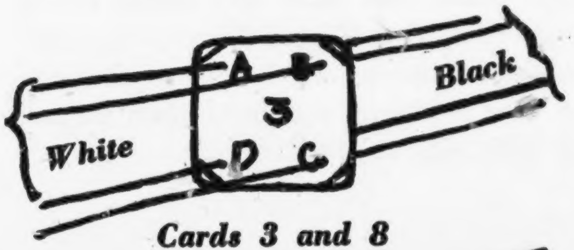
This draft is using black and white thread, but the threads may be a dark color and a different light color or two shades of the same color, one dark and one light. More than two colors may be used.

Each colored square stands for only one tiny stitch and the design will be only about 1/2" x 1" in the finished belt.

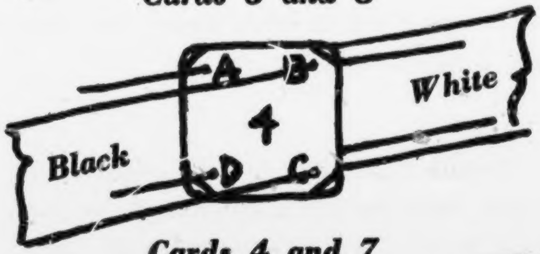


Cards 1 and 10
all threads black

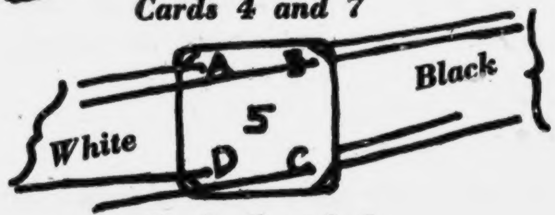
Cards 2 and 9
all threads white



Cards 3 and 8



Cards 4 and 7



Cards 5 and 6

VARIATIONS FOR PATTERN CHANGES—SIX METHODS

1. Instead of turning cards in only one direction, experiment with turning cards four times counterclockwise and then turning them four times clockwise. Change in direction may also be made after eight turns or twelve turns. One turn is insert weft, change shed and beat. The edges are more difficult to keep even when changing directions, but the threads on the oth side of the cards do not become twisted. Tur ing cards in a different direction will chan the pattern from the original one.
2. Turn some of the cards clockwise and so counterclockwise. It produces interesti patterns.
3. Thread holes in some cards from front to ba and then reverse by threading others fr back to front. See first line drawings.

4. Weave a short distance, inserting weft thread and turning cards counterclockwise. Then turn the cards a few turns without inserting the weft thread. This twists together each group of four threads and is very interesting. Then continue counterclockwise again.

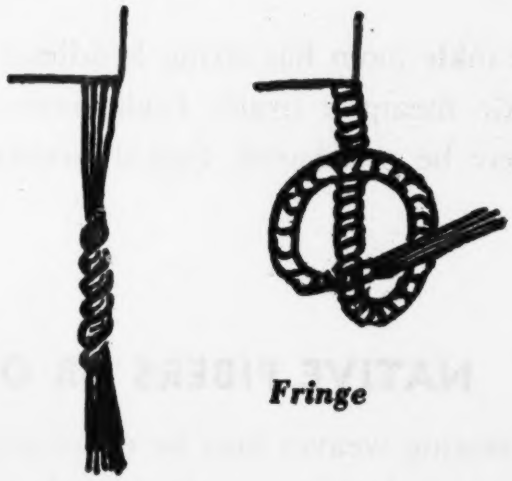
5. When using a double weft, a buttonhole may be woven in the end of a belt by using one-half the cards with one end of the weft thread. Then use the other half of the cards with the other end of the weft thread. At the end of the buttonhole use the double weft thread again with all the cards. The buttonhole will be parallel to the selvage edges of the belt.

6. Points may be woven at the ends of the belt so tassels may be formed or tongue may be formed to be used with a buckle. Take out the cards in pairs at the center or near the border at regular intervals which will bring the belt to a point.

These variations require care in remembering and should only be done by older or mature students. If weaving is interrupted or put away, write down what the next turn will be. Tie cards together or use a rubber band.

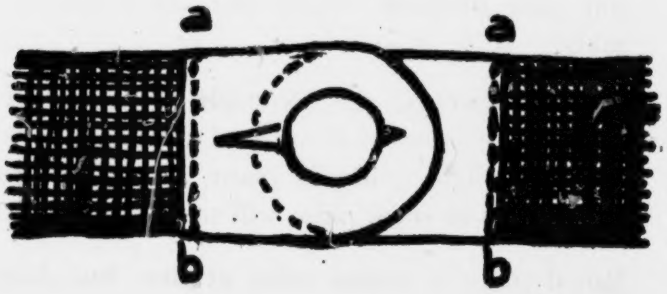
FINISHING BELTS FOR TEE-DEE LOOM OR CARD WEAVING

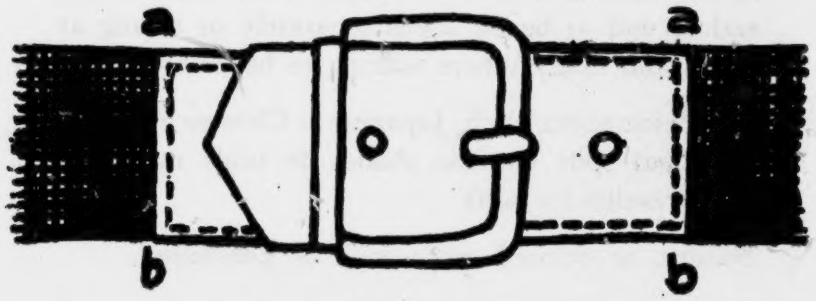
A fringe may be left by tying the threads. Tie every two warp threads together in a square knot or tie as follows: Twist a few strands toward left between thumb and finger; Form a loop on top of twisted threads and take end under and up through knot; Push up and tighten close to weaving.



Fringe

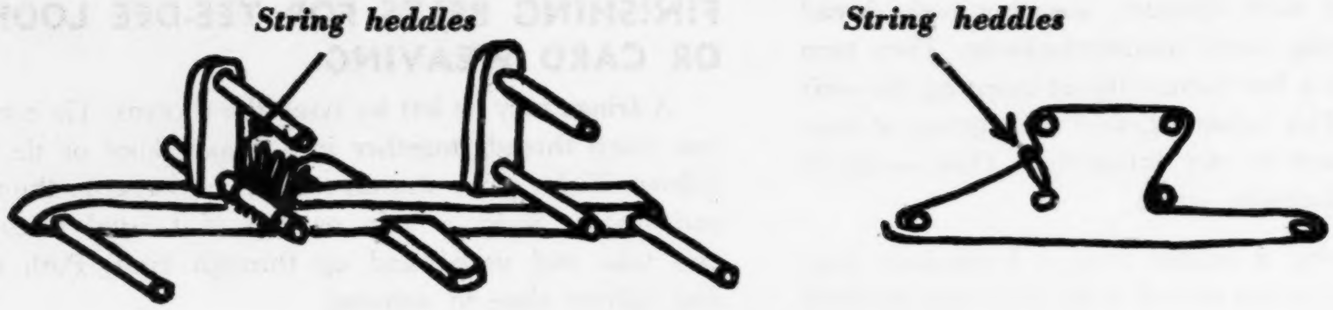
Other endings. Stitch the ends of the woven belt across the width and cut threads about 1/2" from stiching. Choose cloth that harmonizes with the woven belt. Cut the cloth double and use buckram inside for stiffening. Stitch and turn inside out. This may be used for a snap, a button and buttonhole or for a tongue and buckle. Or use leather cut double and stitched on the outside. In either case stitch from a to b as in diagram.





COMMERCIAL LOOMS

Table and floor models may be purchased in two, four and six heddle looms. The floor model r foot loom is easier and faster than a table loom because the feet do the work of changing the hed and the hands are free to beat the weft with the beater and pass the weft through the shed. Either model may be used in the classroom. Warping and threading these looms requires individual nstruction and cannot be described in the guide.



Inkle Loom

The inkle loom has string heddles close together which provide a close warp and weave. The word inkle means a braid. Inkle looms may be made by students. The one above and another model may be purchased. Full directions for assembling, warping and weaving come with each loom.

NATIVE FIBERS OR OTHER MATERIALS FOR WEAVING

Interesting weaves may be developed on any type loom by combining yarns with native fibers or other natural objects such as seeds or shells. Some articles cannot be washed, but can be used for tote bags, lampshades and wall hangings or table mats not used for dining.

SUGGESTED MATERIALS FOR WEFT

Bamboo strips of varying widths, banyan roots, coconut palm midribs, strips of coconut fiber and royal palm blossom sheath, reeds, grasses, lauhala strips, hau fiber, ironwood needles, papyrus, swamp rushes, papaya fiber, honeysuckle branches, umbrella plant, golden stems of sugar cane tassels, bark of the banana and of the paper tree, seeds strung end to end as beads, shells separately or strung as beads and many others waiting to be discovered.

Philippine abaca cloth, Japanese or Chinese mats and discarded spilt bamboo shades or table mats can be unraveled for weft.

Natural or colored raffia may be purchased.

SUGGESTIONS

In gathering native materials for weaving, it is advisable to select mature plant growth in order to have the minimum amount of shrinkage in drying and to provide strong fibers. Materials should be dried in a well ventilated location out of the direct sun. If dried too quickly or under too much heat, fibers often become brittle which makes them less desirable for weaving purposes. Hang the materials in loose bundles during the drying process.

For coconut midribs, strip the green portion from the midribs before the leaves have dried as the material is more easily handled while still green. The bare ribs can then be bundled loosely and dried.

General suitability of a material may be determined by the use to which it will be put as fragile grasses and ironwood needles are suitable for a lamp shade, but they probably would not wear well in place mats.

Articles woven of the materials listed above can be made more colorful if some of the stems and fibers are dyed. The umbrella plant, hala, split bamboo, hau fiber and royal palm will take dye satisfactorily.

Royal palm is cream color at first, but dries to a beautiful brown if not dyed.

Thin strips like split bamboo and coconut midribs must be woven close together or in bundles of two or three and not too far apart.

Short roots, grasses or ironwood needles may be spliced like yarn along the warp, but not on an edge.

Raffia is easier to weave if slightly dampened or beaten.

Allow enough of fiber to project from both sides in proportion to the size of the object to be made. It can be trimmed later. Fibers projecting must not be too far apart for good design. Be sure materials are secured at selvages or they will slip out. Have a sufficient supply to finish the project.

The warp may be any kind desired. The weft may be entirely of native materials or combined with yarns. New shades of colors or new colors are produced when warp and weft are different in color or several shades of a color. It is like mixing paints. To keep a color the same, use warp and weft of the same color.

SCRAP MATERIALS

Nylon stockings, any kind of fabric plain or patterned, burlap bags unraveled, old sheets dyed, oil cloth, plastic, string, rope, ribbons, cellophane, metallic thread or ribbon, discarded marquisette glass curtains. Use flat, twisted, looped or knotted.

THREAD FOR WARP AND WEFT

If a piece of weaving is to be washed, use yarns together that have the same shrinkage. Use colorfast materials if articles must be washed.

Warp thread

Carpet warp, cotton
Linen, if strong and more than 1 ply
Crochet thread, cotton or rayon
Novelty thread, cotton or rayon
Jute
String

Weft thread

Rug filler 1/4" in diameter, cotton
Rug yarn 1/8" in diameter, cotton
Wool, rayon and linen yarns
Novelty yarns
Jute
Carpet warp, cotton
String

RESOURCES

The Code used for books is as follows:

*** — Recommended for school libraries**
# — Listed previously in Resources
L.H. — Library of Hawaii, Music and Art Room
A.A. — Honolulu Academy of Arts, Educational Department
A.D. — Studio of the Art Director

BOOKS

Elementary and Secondary

*Lewis, Roger. *Weaving*. New York: Alfred A. Knopf, c1953. A.D.

Simpson, L. E. and Weir, M. *The Weaver's Craft*. Peoria, Illinois: Charles A. Bennett Company, Inc., c1952. L.H., A.D.

Secondary

#*Art for the High School. Growing with Art Series.* Syracuse, New York: The L. W. Singer Company, Inc., c1957. Inkle Belt Weaving. A.A., A.D.

Atwater, Mary Meigs. *Byways in Handweaving*. New York: The MacMillian Company, c1954. Braidings, knotting, card and inkle weaving for belts. L.H., A.A., A.D.

*Brown, Harriette J. *Handweaving for Pleasure and Profit*. New York: Harper and Brothers, c1952. L.H., A.D.

Gallinger, Osma Couch. *The Joy of Handweaving*. Scranton, Pennsylvania: International Textbook Company, c1950. L.H., A.D.

FILMS

Grade Level	Title	Color	Time
4-8	Loom Weaving	Color	6 min.
4-12	Weavers of the West—Navajo Indians	Color	11 "
4-12	How to Make a Simple Loom and Weave	B & W	16 "
5-12	The Loom—Colonial Weaving	Color	10 "

FILMSTRIPS

Grade Level	Title	Color	Frames
2-7	Weaving—cardboard loom	Color	44 frames
4-12	Weaving—rectangualr and circular cardboard loom	Color	34 "

MOBILES—DESIGN IN SPACE

A mobile is composed of several units which are related in form and color so as to develop a harmonious design. It is a form of spatial design because it moves about in space. Mobiles are a comparatively new form of sculpture introduced by Alexander Calder about thirty years ago. It expresses our modern way of life. A mobile has no meaning according to Alexander Calder who says it is just something pleasant to look at. When propelled by the wind, it seems to have life of its own. Light also affects its beauty.

Mobiles may be suspended from a ceiling, from a projection fastened to a wall or movable units fastened to a base. The three essentials are line, balance and movement.

VALUES

Designing mobiles provides:

Experience with the theory of balance and with movement caused by air currents.
Ingenuity in assembling parts and in working independently to solve problems.
Experience in three-dimensional design in space with lines, spaces and forms arranged in a harmonious relationship.

USES

Decoration as a center of interest in a room.
Decorations for parties and special holidays.

MATERIALS AND TOOLS

Paper, all kinds
Cardboard, all kinds
Balsa wood
Plastics
Bones
Seeds, large
Seedpods
Tin foil
Heavy black or other colored thread
Plasticine weights
Ping pong balls
Stovepipe wire
Doweling
Tiny tacks
Pliers
Glass
Wood
Canec
Mirrors
Feathers
Tin-foil pans
Metal weights
Wire, fine
Double-pointed tacks
Scissors
Sponges
Glue
Cellophane
Papier-mâché forms, hollow
Cardboard tubes
Wire screen
Cloth
Coral
Shells
Metal springs
Metals: thin brass, copper, aluminum, tin.
Wire #12, #14, #16 or #18 gauge
Coat hangers
Screw eyes, small
Metal shears
Staplers

Refer to section on Exploring and Experimenting with List of Materials.

SUGGESTIONS

Show an example or a picture of a good mobile if possible.

A mobile can be very simple, but incorporates balance, movement and relationship of forms. It repeats similar shapes and colors so the eye will be pulled from one unit to another. Even if shapes are flat, a three-dimensional object is formed when caught by air currents.

Too many different shapes, colors and materials in a mobile results in confusion and is not good design.

A number of small forms is not interesting. There should be variety in size of shapes or forms. Forms may be realistic or abstract.

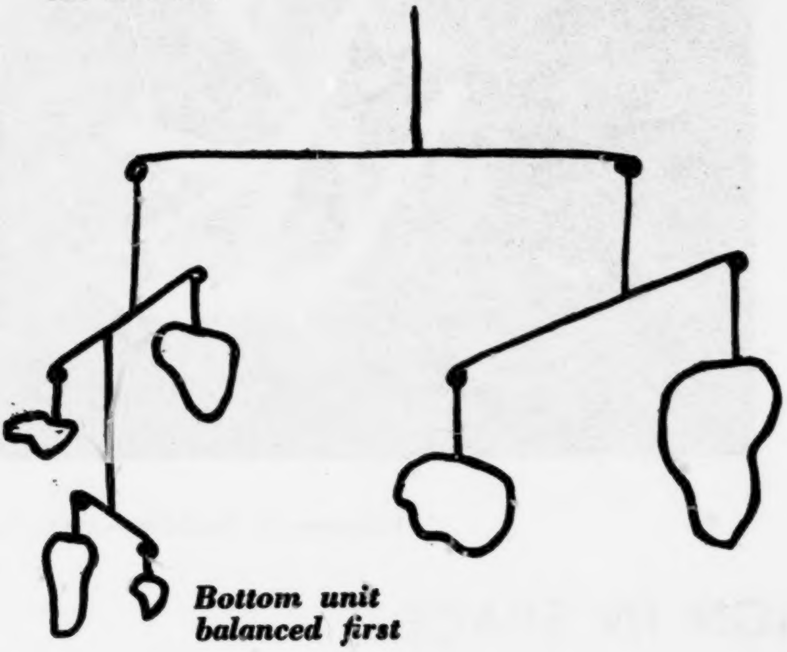
Mobiles may be an individual or a group activity.

PROCEDURE

Suspend a heavy string or a wire across a section of of the room where mobiles may be hung for evaluation.

Young children work directly with the materials. They hang forms which move, but are not concerned with the more difficult problem of balance. It may be introduced in the upper elementary grades.

If the design is not preplanned, it can be a build-evaluate-change-and-take-off project. Take off all superfluous or unnecessary material. Older students may wish to draw several ideas on paper and choose one of them.



Start with the bottom unit of the mobile which will be the lowest arm and forms and work up, balancing each unit and joining it to the one above. Use the seesaw to explain equal and unequal balance to pupils.

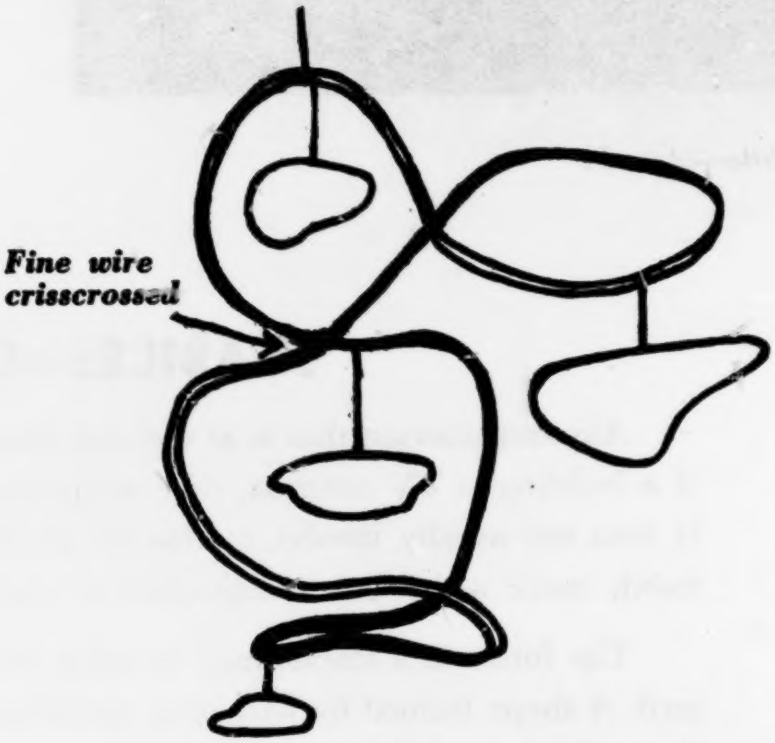
Arms of units may be curved or straight or a combination of both. Wire arms may be curved at ends in small loops either up or down. Forms are fastened by a single thread or lightweight colored string to the small loops. Wire is not used to suspend forms as it prevents motion.

Forms may also be fastened directly to the arms, but will not move. However, there should be enough moving parts to make the mobile interesting.

Tie thread to center of arm and move it back and forth to establish the point of balance. When satisfied with the finished mobile, a little household cement or other fast-drying transparent glue may be added to hold the thread in place. Or it may be tied tightly so it won't slip.

The balance will also be affected by color or shape. Walk around it while evaluating.

A mobile may also be formed by bending a wire in a continuous, free form line: part of the wire going vertically, part horizontally and crossing so it will be three-dimensional. Fasten wires together which cross each other with fine wire applied in a crisscross fashion. Suspend forms and weights to catch air currents.



When mobiles are finished, suspend against a plain wall, move by hand or let wind move it to see the mural of shadows on the wall.

EVALUATION

Is the mobile interesting from all angles?

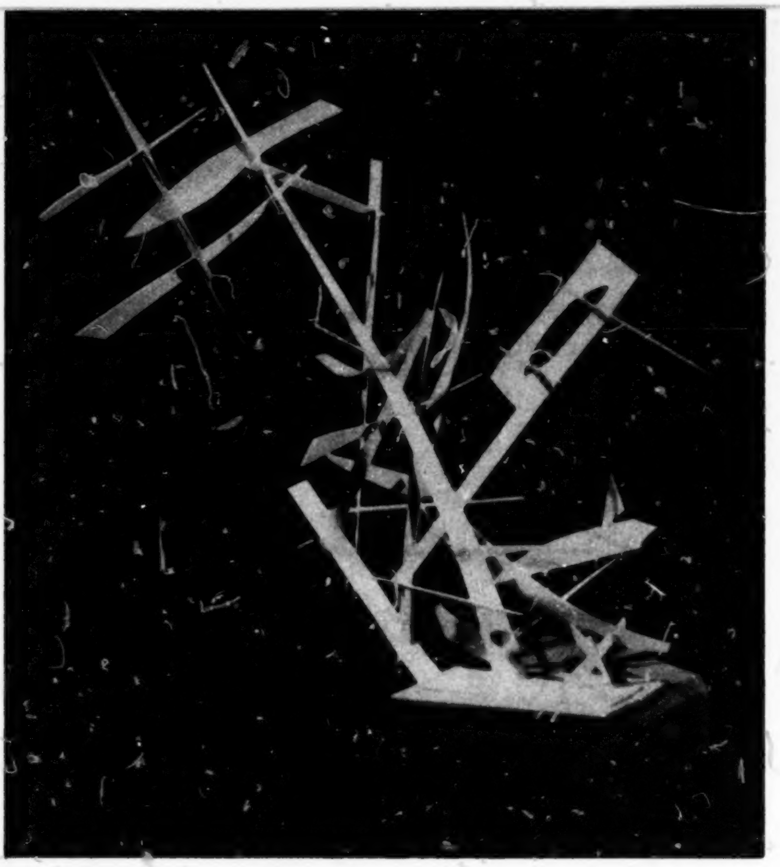
Is this shape too large on this side?

Is any color or form too dark so the mobile is put off balance?

RESOURCES

See Under Adventure With Wire

Mobile—Age 11



Balsawood Stabile—Age 12

STABILES—DESIGN IN SPACE

Any construction that is at rest and thrusts up into space is a stabile. It may be the steel frame of a building, a TV antenna, wire sculpture or any other structure where space flows through it. It does not usually involve motion or air currents like a mobile. However, sometimes parts of a stabile move which is a combination of stabile and mobile.

The forms in a stabile may be solid, hollow or transparent shapes depending on the materials used. A shape formed by wire or a curved strip of paper would be open or hollow and if made of glass, plastic or cellophane would be transparent or translucent. Those parts made of thick wood would be solid. Stabile designs may be realistic or abstract. They are used for the experience of design in space and for decoration.

VALUES

Designing stabiles provides the following:

- Experience in three-dimensional design thrusting up into space with lines, spaces and forms arranged in a harmonious relationship.
- Experience in choosing materials for a design and ingenuity in assembling them.

EQUIPMENT AND MATERIALS

Clay, plasticine, thick cardboard and cardboard boxes, canec, wood, coral and porous volcanic rock for bases

Paper, thin and thick, cardboard tubes, medium and small cardboard boxes, plastic, wood, driftwood, cellophane, cloth mesh, wire screen, metal, wire, foil, beach glass, seaweed, sand crabs, seeds, seedpods, string, yarn, rope and discarded objects. Refer to list of materials under Exploring and Experimenting.

Staplers, staples, quick-setting glue or cement, scissors, combination grasping and cutting pliers, double-pointed tacks, hammers, metal shears

SUGGESTIONS

A variety of materials is necessary, including some that are pliable and bend like paper such as thin cardboard and wire. There should be variety in texture and color.

As in sculpture, these constructions should be pleasing from all sides with good and interesting arrangement of form and space.

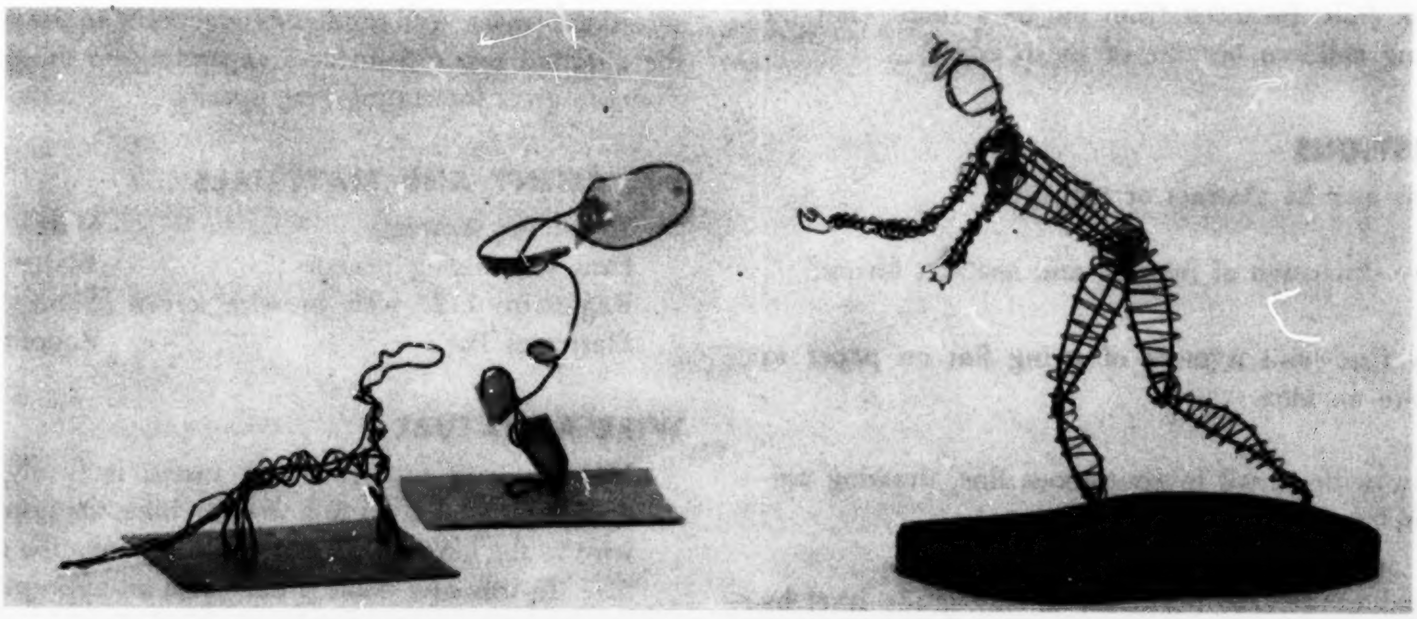
Older students may be given challenging problems limiting them to only one or two materials or using only straight lines and geometric shapes. Another problem may use only curved lines or shapes.

RESOURCES

See Under Adventure With Wire

ADVENTURE WITH WIRE

Wire construction is linear sculpture with open volumes. Wire is challenging because it gives opportunity for experimentation and imagination in constructing. Unnecessary details must be eliminated because of the nature of the material. It permits the pupil to explore and to discover the potentialities of wire by bending, twisting and coiling with perhaps no definite idea in mind other than to produce something that will balance or perhaps move in space. Or the idea may be planned beforehand.



From left to right: Wire Sculpture—Age 9; Abstract Design with Cellophane—Age 8; Wire Sculpture—Age 17

VALUES

Constructing with wire:

- Increases inventiveness by manipulation and exploration.
- Develops understanding of the potentialities and limitations of wire.
- Provides experience with line design in space.
- Develops ability to solve problems.
- Provides experience with space relationships in either two- or three-dimensions.

EQUIPMENT AND MATERIALS

Cutting and grasping pliers

Hammers, nails, double-pointed tacks

Dowel sticks or pencils on which to make spiral coils

Galvanized wire #14 to #18 gauge; #18 best for elementary grades (10 lbs. are needed for a class of 35)

Copper wire (scraps purchased from an electrical products company)

Colored coated wire discarded by telephone or construction companies

Clothes hangers (require strong hands, but useful in an armature for sculpture)

Pipe cleaners, florists wire

Plastic sheets and other materials used to give contrast to wire

Blocks of wood or stiff cardboard for foundations

Wire coils discarded from machine shops (not for young children because of sharp edges)

SUGGESTIONS

Ideas may be abstract or realistic.

Have discussion of realistic and abstract forms.

Play first with a piece of string flat on paper to inspire an idea

Draw with pencil in continuous line, drawing animals, people or abstract forms.

Introduce wire to beginners at any grade level by constructions combining wire with other materials. They become familiar with the characteristics of wire and when they later use wire alone, they will have more confidence.

Wire design at any age level may be flat (two-dimensional) and fastened to a background. Very young children usually start using it flat. Soft wire may be used in this way.

A more rigid wire is necessary for three-dimensional design so the object will stand.

The gauge of the wire will determine the type of the design possible. The use of heavy wire permits the expression of a large idea and the movement in the design is slower than when using finer wire. In using fine wire the idea becomes smaller, more delicate and movement more rapid. Working with a single wire helps in the selection of an essential movement or lines of the form and in integrating only important detail.

Limit wire lengths for younger children to 15 to 18 inches. Older children may handle wire 3 to 4 feet or longer in length.

Pieces of wire may be joined, but carefully so as not to break the continuity of line.

The result is creative integration of medium, seeing, feeling, thinking and doing.

PLASTER SCULPTURE WITH WIRE ARMATURE

Preparing the wire armature and plaster is an interesting project. Add sand and/or zonolite to the plaster for different textural surfaces depending on the design. Zonolite gives interesting gray specks.

EQUIPMENT AND MATERIALS

Spoon for scraping
Pans for mixing plaster
Rag strips 1/2" wide or wire screen
Plaster of Paris
Wire
Water
Sand
Zonolite

WIRE ARMATURE

Make a wire armature and fasten it firmly with double-pointed tacks to a wooden base. Or fasten the wire to the base first and proceed to make the armature. In this case make a hole with an appropriately sized nail on the wood base which should be large enough to support the sculpture. Imbed wire end and glue it into place.

Build skeletal structure slowly and well, using fine wire for joining when necessary to insure firmness. Firmness is important as it will contribute to the strength of the sculpture. A shaky foundation cannot be used successfully with plaster.

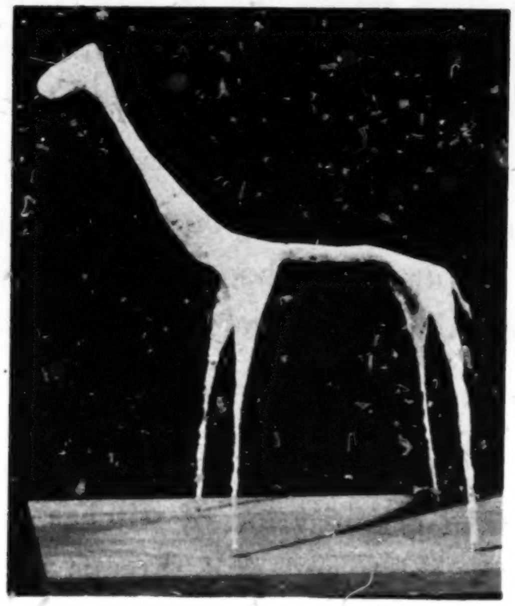
Wrap wire armature carefully with rag strips or wire screen. This provides a tooth to which the plaster can adhere.

LASTER MIXTURE

Mix the plaster only a portion at a time. Refer to Mixing Plaster in section on Sand Sculpture. When the plaster coats the fingers, a handful of sand or zonolite may be added. Stir only enough to distribute sand or zonolite evenly.

Apply plaster to wire armature which was wrapped with rags. The surface may be rough or smooth as desired.

Plaster on Wire Armatures



Age 13

Age 17

RESOURCES

For Mobiles, Stabiles, Wire Sculpture

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L.H. — Library of Hawaii, Music and Art Room
A.A. — Honolulu Academy of Arts, Educational Department
A.D. — Studio of the Art Director

OOKS

ementary and Secondary

#D'Amico, Victor; Wilson, Frances and Maser, Moreen. *Art For The Family*. The Museum of Modern Art, New York: Simon and Schuster, c1954. A..A, A.D.

#D'Amico, Victor. *Creative Teaching in Art*. Scranton, Pennsylvania: International Textbook Company, c1953. Chapter Seven. A.A., A.D.

#Lord, Lois. *Collage and Constructions in Elementary and Junior High Schools*. Worcester, Massachusetts: Davis Publications, Inc., c1958. A..A, A.D.

condary

**Art for the High School. Growing With Art Series.* Syracuse, New York: The L. W. Singer Company, Inc., c1957. Pages 50-51. A.A., A.D.

Lynch, John. *How To Make Mobiles*. New York: Studio Crowell Inc., c1953. A.A.

*Lynch, John. *Metal Sculpture*. New York: Studio Crowell Inc., c1957. L.H.

*Lynch, John. *Mobile Design*. New York: Studio Crowell Inc., c1955. L.H.

#Struppeck, Jules. *The Creation of Sculpture*. New York: Henry Holt and Company, c1952. L.H., A.D.

Sweeney, James Johnson. *Alexander Calder, Mobiles and Stabiles*. New York: The Museum of Modern Art, c1943.

FILM

Grade Level	Title	Color	Time
4-12	Make a Mobile	Color	5 min.

FILMSTRIP

Grade Level	Title	Color	Frames
7-12	Wire Sculpture	Color	22 frames
	Figures and mask over wire armature		

CREATIVE STITCHERY

Creative stitchery is sometimes called "thread painting." Pupils of all ages, both boys and girls, find creative stitchery a challenging adventure. Teachers and pupils will need to throw away all their old ideas about embroidery, using stamped patterns with forget-me-nots and other time-worn designs. It is necessary to "see" in a new way about designing with stitches. The technique of embroidery and the purpose for which the article is made should not be separated from the creation of an original design. It is very satisfactory to have the work all one's own, even if the idea is only a simple one. When it is translated into color and stitchery, it will be far more charming and satisfying than a pattern purchased at a store.

Creative stitchery may be used for a picture to be framed and hung on a wall, bags, aprons, skull caps, belts, table mats and large wall hangings. Pupils may choose a theme for a wall hanging, each contributing some part of the theme. Then the pieces are sewed together.

VALUES

Designing creative stitchery:

- Develops aesthetic appreciation in the harmonious organization of stitches, using lightweight and heavyweight, rough and smooth, shiny and dull threads in warm and cool, dark and light colors.
- Satisfies the urge to create and to arrange.
- Provides sensory and tactile experience.
- Affords a new media for expression and opportunity for individual choices.
- Uses embroidery in a new way.

DESIGN

A design, theme or idea may be composed on paper first, drawn on the cloth with pencil, crayon, or chalk or the design can evolve as one works. It is more interesting to make choices of color, thread and organization as one goes along rather than to plan completely in advance. Ideas may be realistic or abstract. They can develop from a scribble or a doodle. Encourage young children to draw large. It may be necessary to remind older students to think of the whole space and to repeat similar lines, colors and shapes like in painting.

Choose an original idea. The following are only suggestions.

My Garden
Man in Space
Mynah Birds
Hawaiian Petroglyphs
At the Beach
Shapes, Lines and Colors
Planets and Nebulae
The Zoo
Madame Pele
Pandanus Tree
The Sampan

METHODS

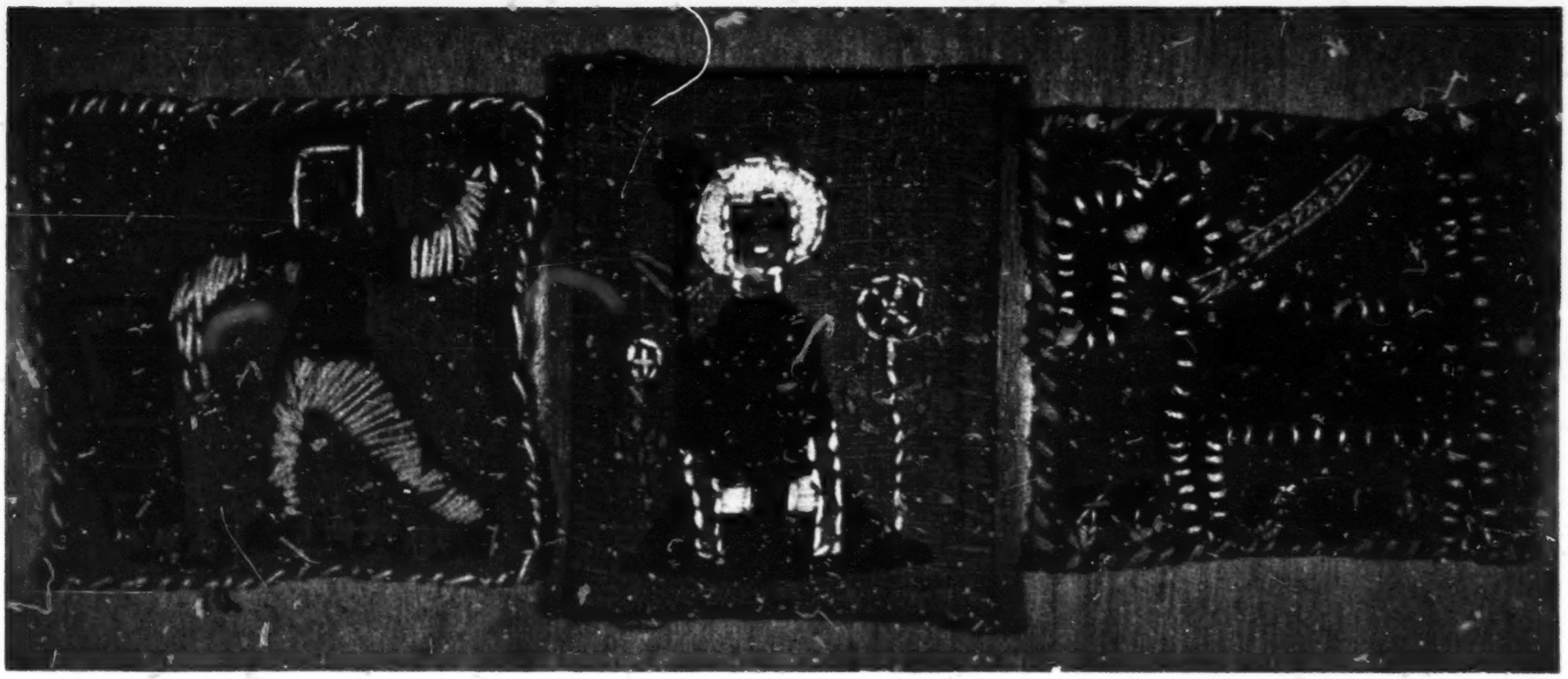
There are four methods using different materials and techniques as follows:

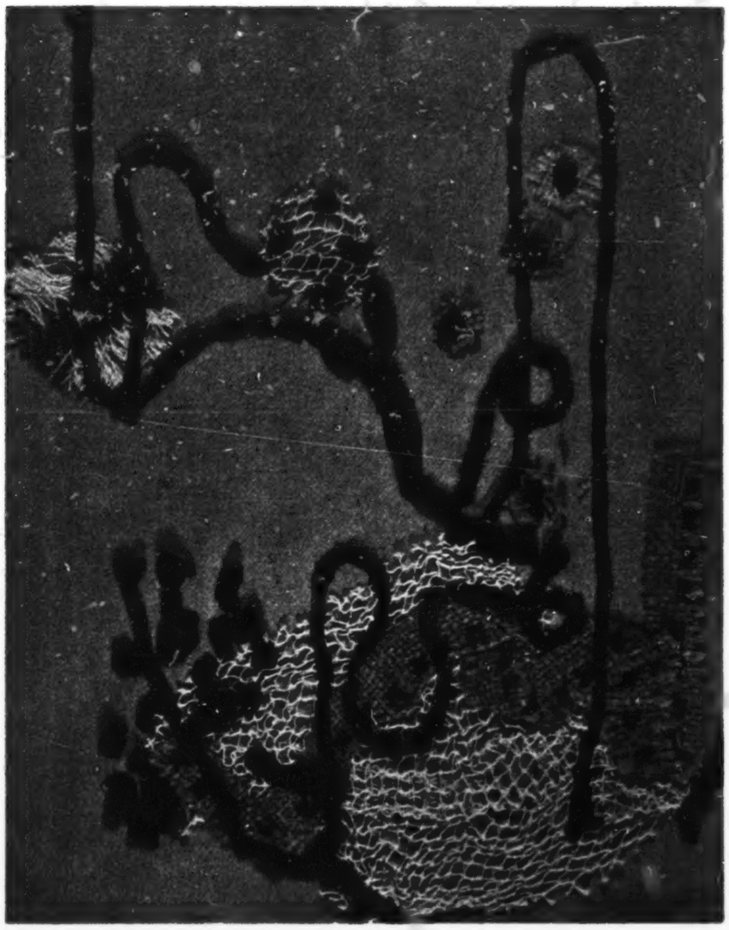
1. The design is embroidered only with threads and yarns which is often called "thread painting".
2. Stitchery is combined with applique, using various materials attached to the background with embroidery stitches. This may take on the quality of collage.
3. A design is carried out by hooking with yarn or strips of cloth.
4. Embroidery, hooking or applique of materials may be combined in one piece of work.

STITCHES

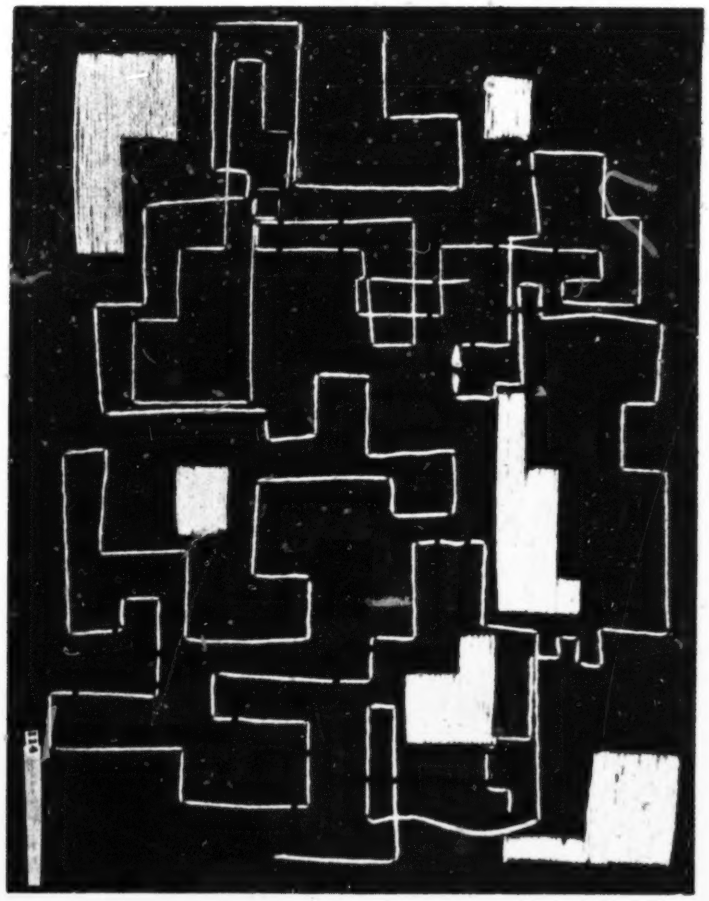
It is possible to explore and invent stitches with no introduction in traditional stitches. If they are introduced, only a few simple stitches are necessary. A complete design can be made by using one stitch in

Yarn on Colored Burlap—Grade 2





Applique and Yarn—Age 12



Yarn on Burlap—Grade 8

different ways. Threads may be superimposed, crisscrossed in any direction or isolated from others. They may be long or short. Encourage the use of the colored threads or yarns with stitches in a spontaneous way like in painting a picture. The stitches do not need to be neat or perfect. Originality can be blocked by too much emphasis on technique. With more experience, the mechanics will be mastered. Keep the emphasis on the design.

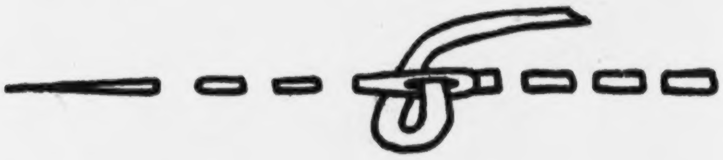
KINDS OF STITCHES

Running stitches are the ones where the needle goes up and then the needle goes down. They are the running, outline, back stitch, cross stitch and satin stitches.

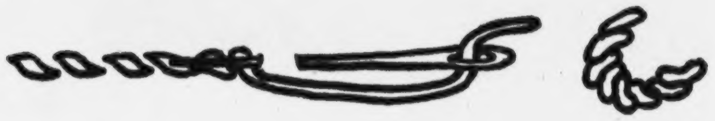
Stitches made by looping the thread around the needle are the blanket or buttonhole, chain and French knot.

Couching is made by laying a heavy thread on the background cloth for outlining. The needle goes up and over, then down at regular intervals to hold the thread to the background.

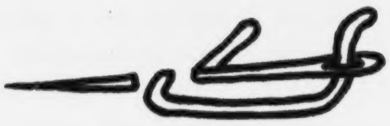
Running stitch



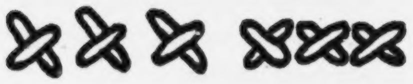
Outline stitch



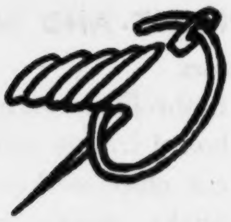
Back stitch



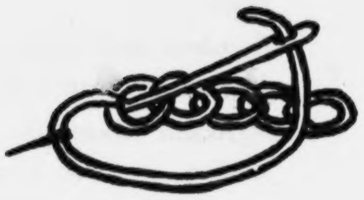
Cross stitch



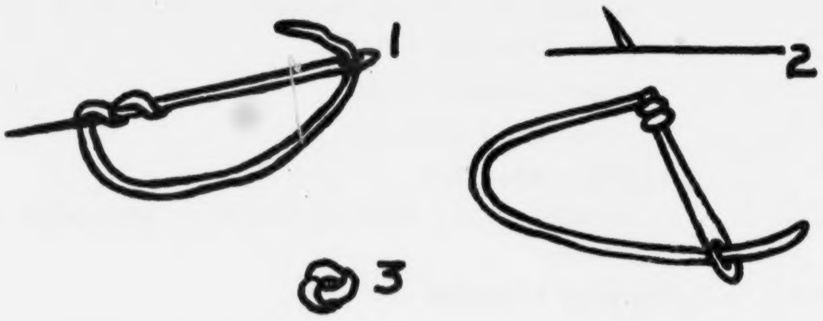
Satin stitch



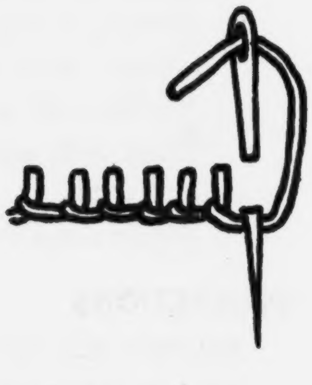
Chain stitch



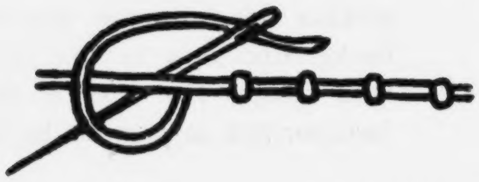
French knot



Blanket or buttonhole stitch



Couching



BLANK PAGE

EQUIPMENT AND MATERIALS

Frames

Embroidery hoops, old picture frames or cardboard frames using chipboard #15. Paper firms cut chipboard in strips for a minimum charge. Sticks, dowels or cardboard may be fastened to two opposite sides of the background cloth.

Small carpet tacks for old picture frames. Insert tacks only halfway so they can be removed later.

Staplers and staples to join cardboard strips at corners to form a frame.

Background Materials

Burlap, natural and colored, monk's cloth, old curtain scrim, tarlatan, organdy, net or any kind of plain cloth

Orange, onion or burlap sacks

Copper, galvanized or plastic wire screen

Threads

Yarns, string, rope or soft wire of various weights Yarns may be cotton, wool, rayon, silk, jute, linen and metallic.

Heavy crochet thread

Embroidery thread

Applique Materials

Scraps of any kind of fabric in any color or texture

Hooking Materials

Loosely woven materials for background

Yarns and/or strips of torn cloth 1/4" to 3/8" wide

Large crochet hooks

Materials for accent

Buttons, braids including rickrack, raffia, beads, sequins, seeds and shells

Needles with large eyes and/or tapestry needles

Hand drill and fine bit to make holes in seeds and shells

Staplers and staples, pins, scissors

SUGGESTIONS

Stitchery may be done without a frame, but care must be taken not to pull the threads too tight.

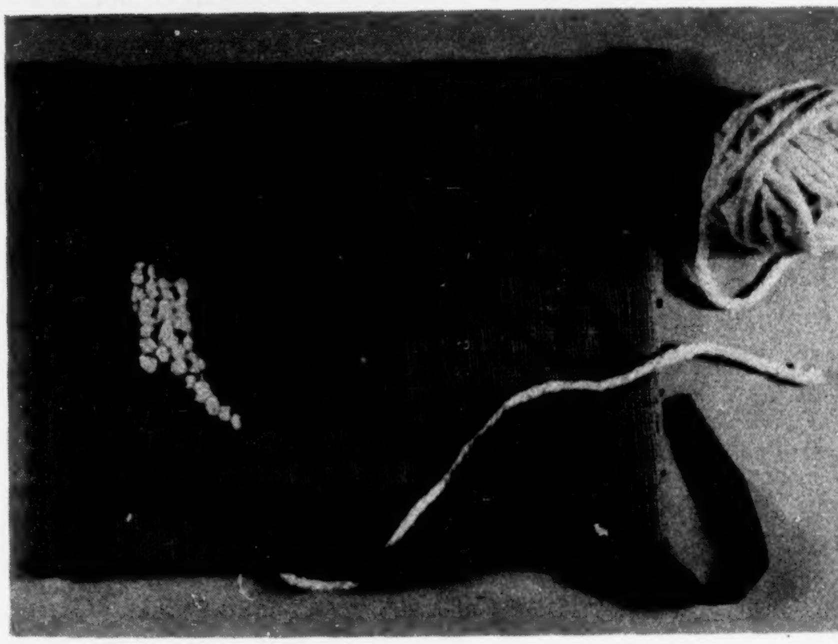
A solid area may be in contrast to an area of open stitches which reveals the background cloth. The background may or may not be entirely covered with design. The color of the background may be incorporated as part of the design.

For young children the simpler running stitches and applique are easier and more suited to a short interest span. The yarn or materials for applique may be pinned or stapled on before stitching. For applique encourage children to cut shapes freehand. List the stitches on the blackboard with illustrations. If necessary, have the children practice a few stitches on pieces of old sheets or with heavy white thread on black paper. Caution children not to pull threads too tight and not to carry the thread over the outside edge. This necessitates pulling the thread out and starting over again. Help them to avoid doing things over as this discourages young children.

If used for a picture, frames may be made of wood or heavy paper such as bristol or tagboard.

When making table mats, the underside must be finished more carefully with no loose threads hanging.

Hooking with Yarn and Cloth



HOOKING FOR CREATIVE STITCHERY

Draw a design on a piece of paper the actual size of the article to be made. Trace the design on a piece of coarse material like burlap, leaving a three inch margin of material on all four sides. The margin will not be hooked, but will later be turned under as a hem.

Use yarns or strips of cloth.

Tack the material to a frame, an old picture frame or one made from four strips of wood about one and one-half inches wide.

Hooking is done with a hooking needle or a large crochet hook. Hold the yarn or strip of cloth horizontally with one hand underneath the outline of the design on the material. With the hooking needle or crochet hook in the other hand on top of the material, push down through the mesh and pull a loop of yarn or cloth up through the burlap to the desired height, not less than one-fourth inch. Keep loops as near the same height as possible without crowding, but with no burlap showing. Hook the outline of the design first, then fill in the masses.

Remove from the frame when the hooking is finished.

Burlap is turned under along edges and hemmed.

RESOURCES

The Code used for books is as follows:

*** — Recommended for school libraries**
# — Listed previously in Resources
L.H. — Library of Hawaii, Music and Art Room
A.A. — Honolulu Academy of Arts, Educational Department
A.D. — Studio of the Art Director

BOOKS

Elementary and Secondary

#Best-Maugard, Adolfo. *A Method for Creative Design.* New York: Alfred A. Knopf, Inc., c1927. L.H., A.A., A.D.

The Gingham Book of Embroidery. The Educational Bureau of Coats & Clark, Inc., 430 Park Avenue, New York, N. Y. A.A., A.D.

Karasz, Mariska. *Adventures in Stitches* and *More Adventures, Fewer Stitches.* New York: Funk and Wagnalls Company, c1959. L.H., A.D.

#Lewis, Roger. *Weaving.* New York: Alfred A. Knopf, c1953. Hooking, pages 34-36. A.D.

McLeish, Minnie and Moody, Ella. *Teaching Art to Children.* New York: The Studio Crowell, Inc., c1953. Pages 52-59. L.H., A.D.

BOOKMAKING AND FOLDERS

The art of bookmaking dates back to ancient times and is almost as old as writing. As soon as the technique of paper making was mastered, writing was preserved on scrolls. Later the accordian booklet was used, which led to the use of hard covers to protect it. Tying folded papers down the center and sewing many sections together was the next step. During the middle ages bookbinding developed into a fine art. The books were handmade by monks, beautifully written in manuscript with illustration in color which is called illuminated manuscript. The covers of some books have been of tooled leather. Children and older students enjoy the study of the history of bookmaking and also the making of a booklet, folder or sewed book. They should have the opportunity to choose the size, material and decoration for their books.

VALUES

Making booklets or books:

Develops appreciation for magazines, pamphlets and books; for the written and printed page; and for illustrations that make the book more interesting.

Preserves a student's work.

May be used as an art process in correlation with other areas of learning.

USES

Memo pads, autograph and photograph albums, diaries, and books for social studies or other subjects may be made and illustrated with original art work.

SUGGESTIONS

Discussion of books including the naming of the parts of a book and the care of them should precede the project. The showing of fine examples, including those brought by the pupils will stimulate interest. A trip to the library would be another stimulus.

The activity may be the work of an individual, a small or a large group. The entire class may wish to make a large scrapbook to send to another community.

Surface or all-over pattern may be designed for either the covers of the book or for the end sheets. If the cover has a pattern, the end sheets are usually plain and vice versa. The size of the motifs in the pattern will be in proportion to the size of the book. They may be done by stick or block printing or by other methods on paper or cloth. Refer to section on Decorative Design or Pattern for other methods of decoration.

The cover should be of heavier weight than the pages. Cords or ribbons used for tying booklets should harmonize with the colors of the cover and end sheets. Two or three colors usually are better for books. The subject matter inside the book helps to determine size, pattern and color. Leaves may be torn or cut. Some beautiful books have pages with torn edges.

The following booklets and books are arranged from the simplest type possible for younger children to the hand-sewed book that can be made in grade six and in secondary classes.

BOOKLETS—FIVE TYPES

The following booklets may be made for use in school or for a gift to take home. They could be used for creative writing, original drawings, scrap books, autograph albums or for work of any subject area.

EQUIPMENT AND MATERIALS

Paper
- White or colored newsprint
- Wrapping
- Typing, bond
- Mimeograph
- Colored construction
- Drawing manila
- Bristol or tagboard

Scissors or paper cutter
Awl used in sewing

Cord, crochet thread or narrow ribbon

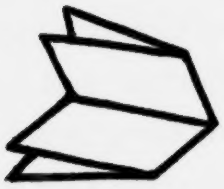
Darning or tapestry needle with large eye

Paste thinned with water, wheat paste, rubber cement or glue

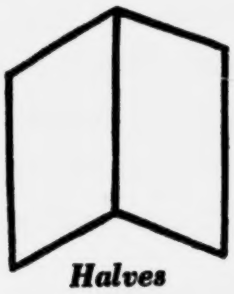
PROCEDURE

1. Fold paper lengthwise or breadthwise. Fold once into halves or twice into quarters depending on size of paper. Use as many sheets as desired. Lengthwise will give a tall book for a list of words or numbers. Breadthwise may be used for stories, poems or scrapbooks.

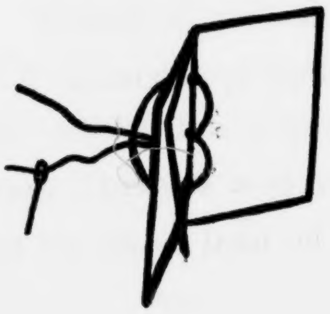
   Cut heavy paper for the cover and have children decorate it. Cut it a little larger than the sheets of paper. Show the children how a cover usually extends beyond the leaves. Lay folded leaves one over another on top of the cover. Punch three holes with the needle or awl on the inside fold through the center, halfway to top edge and halfway to bottom edge. Measure with the eye to train the eyes. Thread needle with cord or other material. Turn booklet over and pass needle through center and up through top hole down to bottom hole (outside) and through the center hole from inside. Adjust length, pull tight and tie in a bowknot.



Quarters

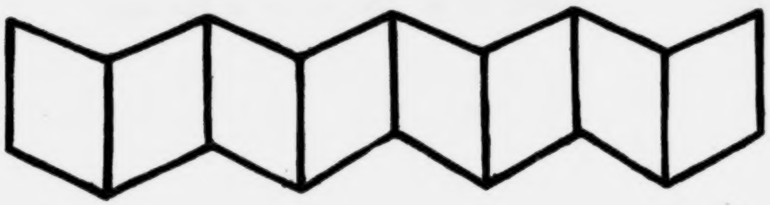


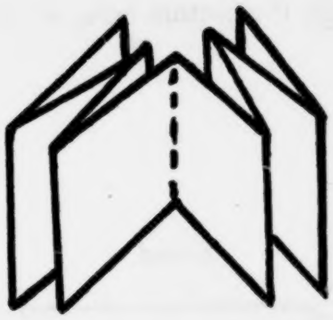
Halves

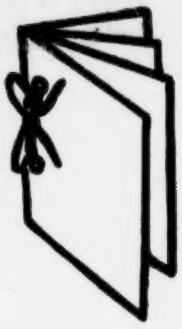


Sewing

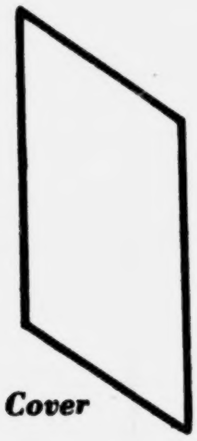
2. A long strip of newsprint or other thin paper may be folded in half, in half again and in half a third time, opened up and accordion pleated. This gives four leaves or eight pages. The leaf of two pages will be folded on the edge so it won't tear. Cut a cover a little larger, fold it down the center and insert the four-leaved book. Punch holes on folded side and tie with cord or staple.

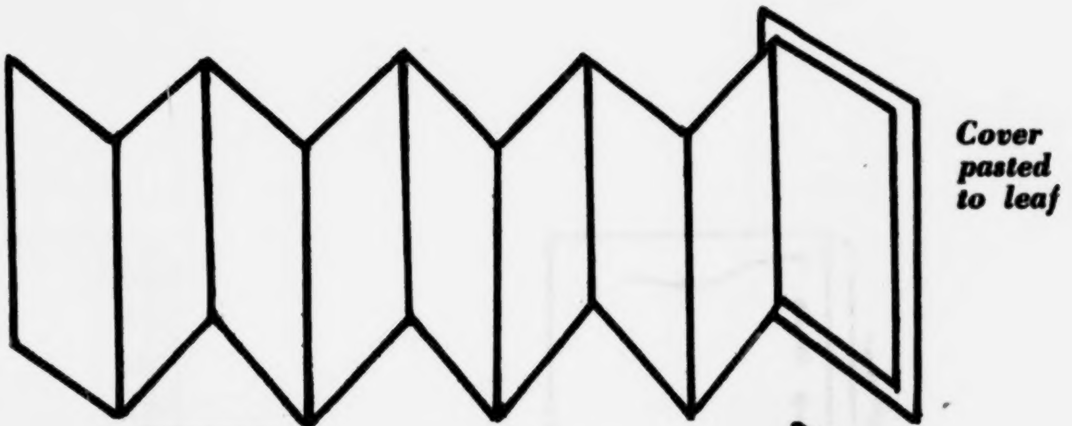


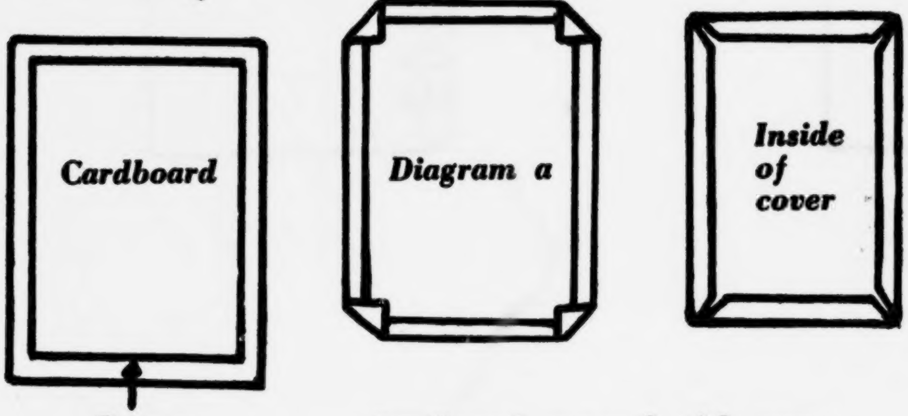




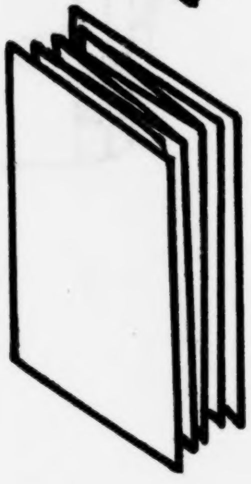
3. Accordion pleat any strong paper. For covers, cut two pieces of bristol or tagboard a little larger than the folded booklet. Have children decorate the covers. Covers may be made of cardboard and covered with a paper designed by the children. Paste cardboard to paper with a thin paste or rubber cement. Turn corners of paper over cardboard as in diagram *a*. Fold in the four sides and paste down. Paste first leaf of accordion booklet to one cover and last leaf to the other cover.





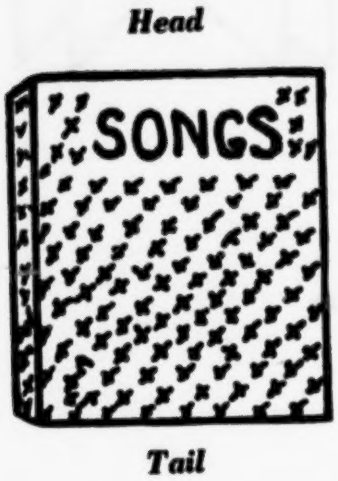


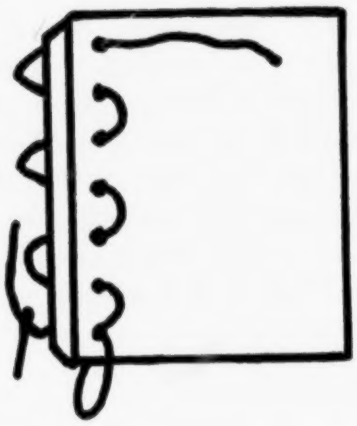
Cardboard covered with paper

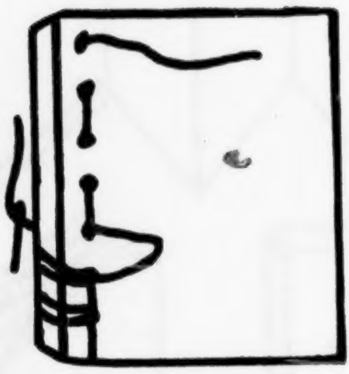


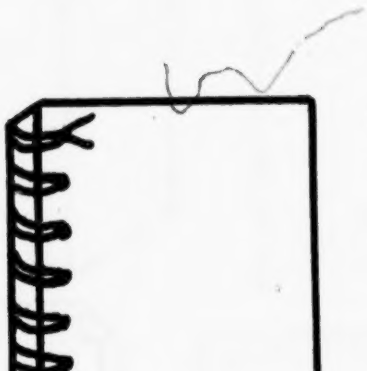
4. Cut loose leaves for a memo pad. Design heavy paper for the cover. Punch holes and tie with cord.
5. For a thick book of many pages, fold and tear or cut leaves as in # 1. Design cover of heavy paper. Cut it a little larger than the paper book. Measure and punch holes with an awl. Use the Japanese binding stitch and sew with needle and heavy thread. Start at top hole, sew in and out of holes and through the bottom hole, go around the tail of the book and through the bottom hole again. Go around the back of the book twice at every hole and in and out to the top hole. Go around the head of the book. Tie the ends in a square knot, cut off ends leaving a little to poke inside the hole.

The work done in social studies or other areas which has been written on lined theme paper may be put together in this way. The binding stitch may be at the top or at the side.







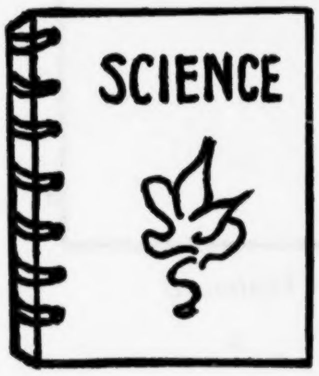


HARD COVER WITH HINGE

Two cardboard covers with hinges may be used for a thick book using Japanese binding stitch described above. The hard covers may also be used for covers of loose-leaf memo books, loose-leaf folders such as photograph albums, scrap books or folders used in social studies or other areas.

EQUIPMENT AND MATERIALS

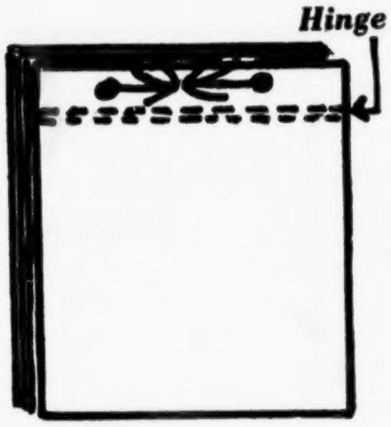
- Cardboard (chipboard)
- Paper for leaves
- Paper or cloth for cover
- Wheat paste, thinned paste, thin glue or rubber cement
- Brushes for paste
- Paper cutter, paper punch, scissors
- Rulers, pencils and newspapers



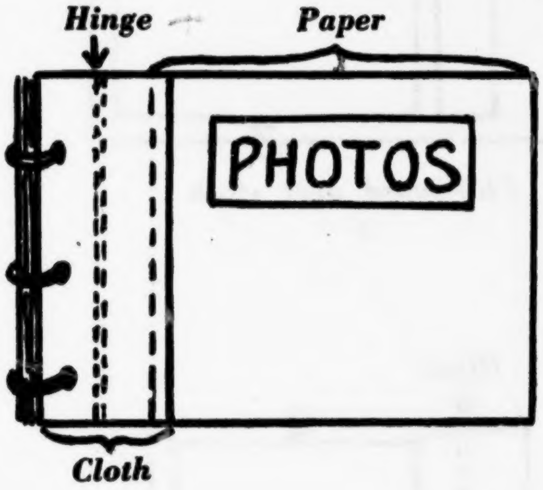
Japanese binding stitch

SUGGESTIONS

The front and back covers may be made entirely of cloth, or cloth and paper combined. The covers may be made with the hinge at the top or at the side. Holes may be punched for tying or for the use of rings.



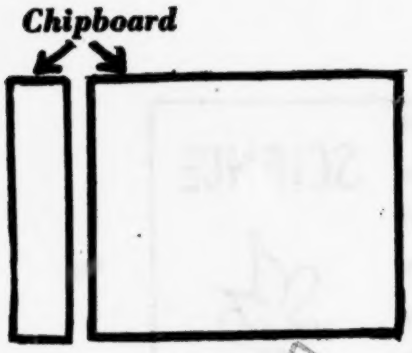
Cloth binding



Paper with cloth binding

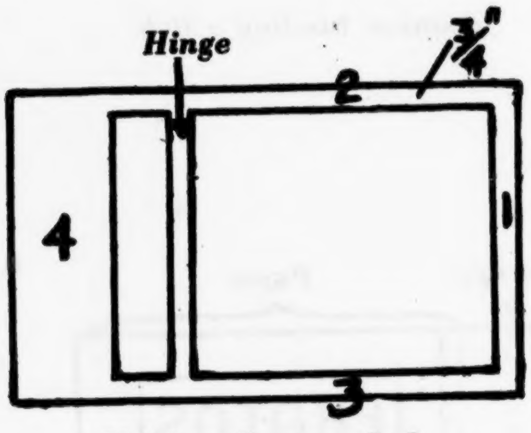
PROCEDURE FOR CLOTH COVER

Cut two pieces of chipboard for each cover, two narrow and two wide as in diagram *a*. Lay pieces of chipboard on cloth. Be sure they are parallel. Trace around them and also mark where cloth is to be cut. Cut the two pieces of cloth about 3/4" larger than the chipboard on top, right side and bottom, flaps 1, 2 and 3.



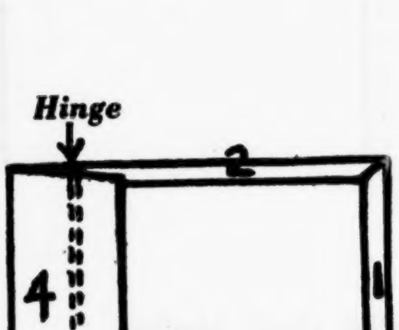
Chipboard

a



Chipboard over cloth

b



Hinge

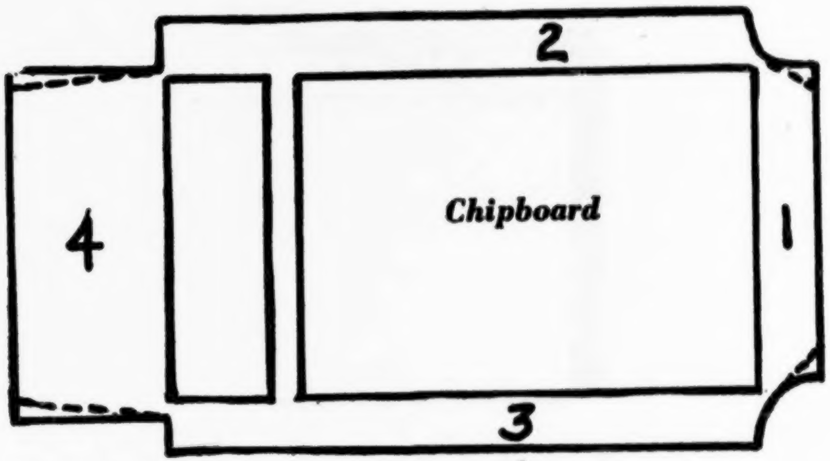
c

Cut it wide enough at left side to fold back over narrow piece of chipboard and onto the large piece of chipboard as in diagram *c*. The distance between the two pieces forms the hinge which should be about 1/8" wide. The width of the hinge will depend on the thickness of the chipboard.

Cloth for front cover may be designed with wax crayons, stenciling with crayons or textile ink, block or screen printing or other methods. After the cloth cover is designed, lay it wrong side up on newspaper. Apply paste or glue to the cloth generously, but not lumpy. Lay the two pieces of chipboard on the cloth inside the traced lines and press with hand.

Miter the upper and lower right hand corners of the cloth flaps and the upper and lower left hand corners of the wide cloth flap that will be folded back to form the hinge.

Cut with scissors, leaving cloth beyond the point of the chipboard equal to the thickness of the chipboard as in diagram *d*.

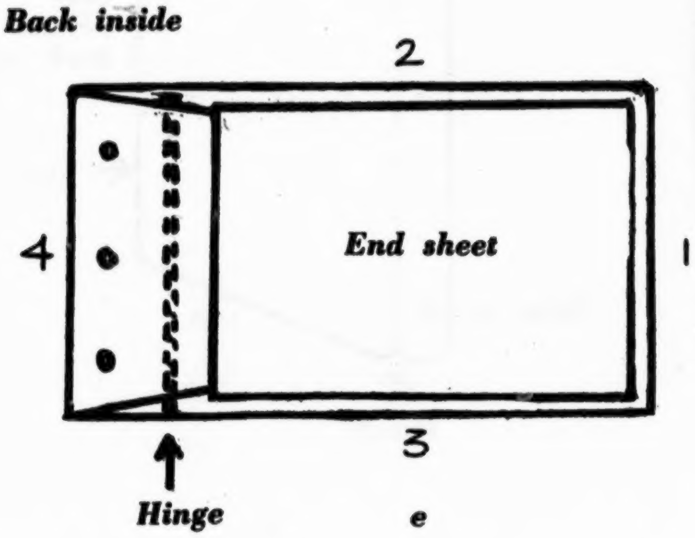


d

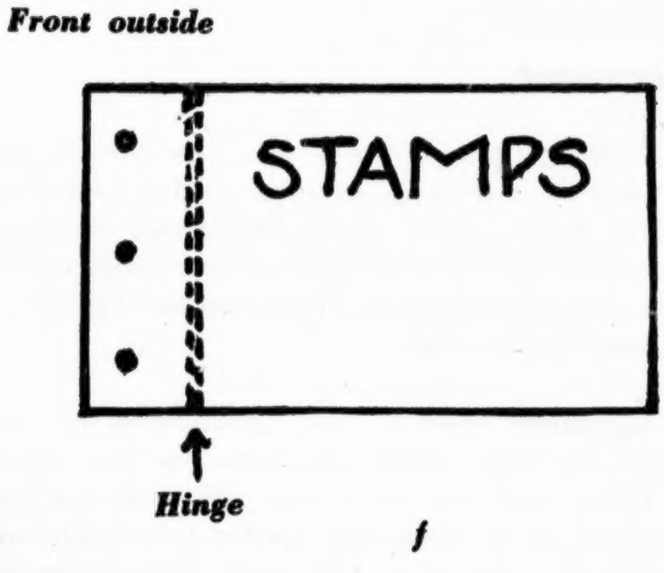
Apply paste to flaps and paste flaps 2 and 3 over onto chipboard. Press back the bit of cloth projecting beyond the point of the chipboard with a fingernail. Turn flap 1 in on dotted lines to avoid raw edges and paste over onto chipboard. Turn flap 4 back a little at corners on dotted lines and paste over onto the chipboard. See diagram *c*.

Cut two pieces of paper for end sheets 1/8" to 1/4" narrower than the cover on sides 1, 2 and 3 and just overlapping side 4. Paste end sheet to inside of cover.

Repeat the process for the second cover. Punch holes, apply eyelets if available and tie with cord or use metal rings.



e

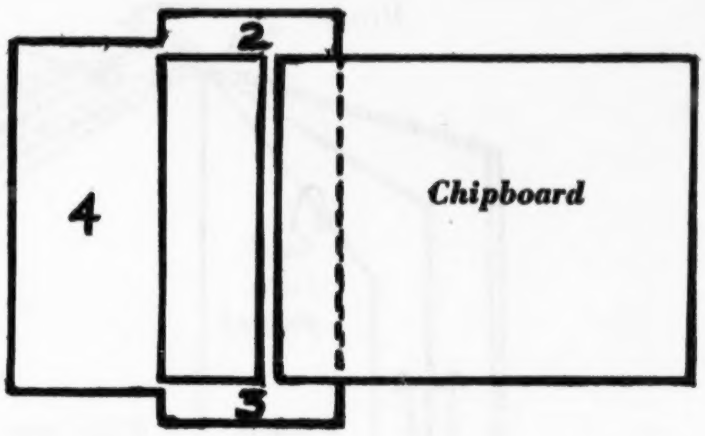


f

PROCEDURE FOR CLOTH AND PAPER COVER

Cut cloth wide enough to extend over narrow piece of chipboard, allow for hinge and extend over onto the larger piece of chipboard. Lay the cloth wrong side up on newspapers. See diagram *e*. Apply paste or glue to it and glue the chipboard in place. Miter corners and follow directions given for a cloth cover.

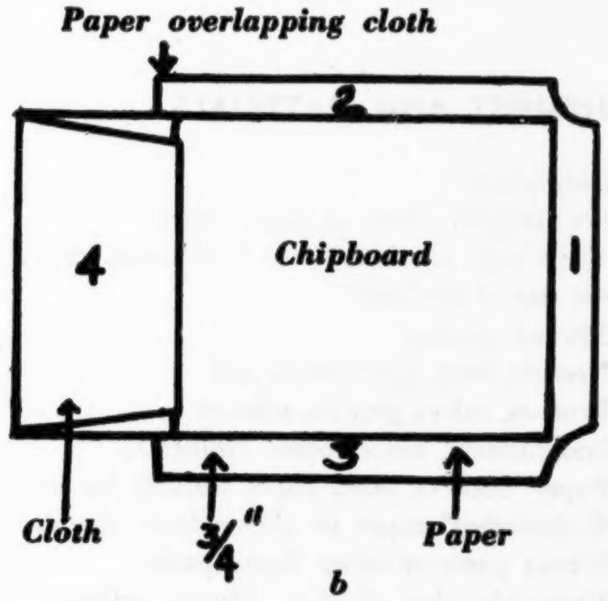
Paste down flaps 2, 3 and 4 onto chipboard.



Cut paper for cover and design it. Miter corners at right side. Place it wrong side up on newspapers. Apply paste or glue to it and glue the chipboard down onto it. Paste down flaps 1, 2, and 3.

Follow directions previously described for end sheets of a book with cloth covers.

Repeat the process for the second cover.

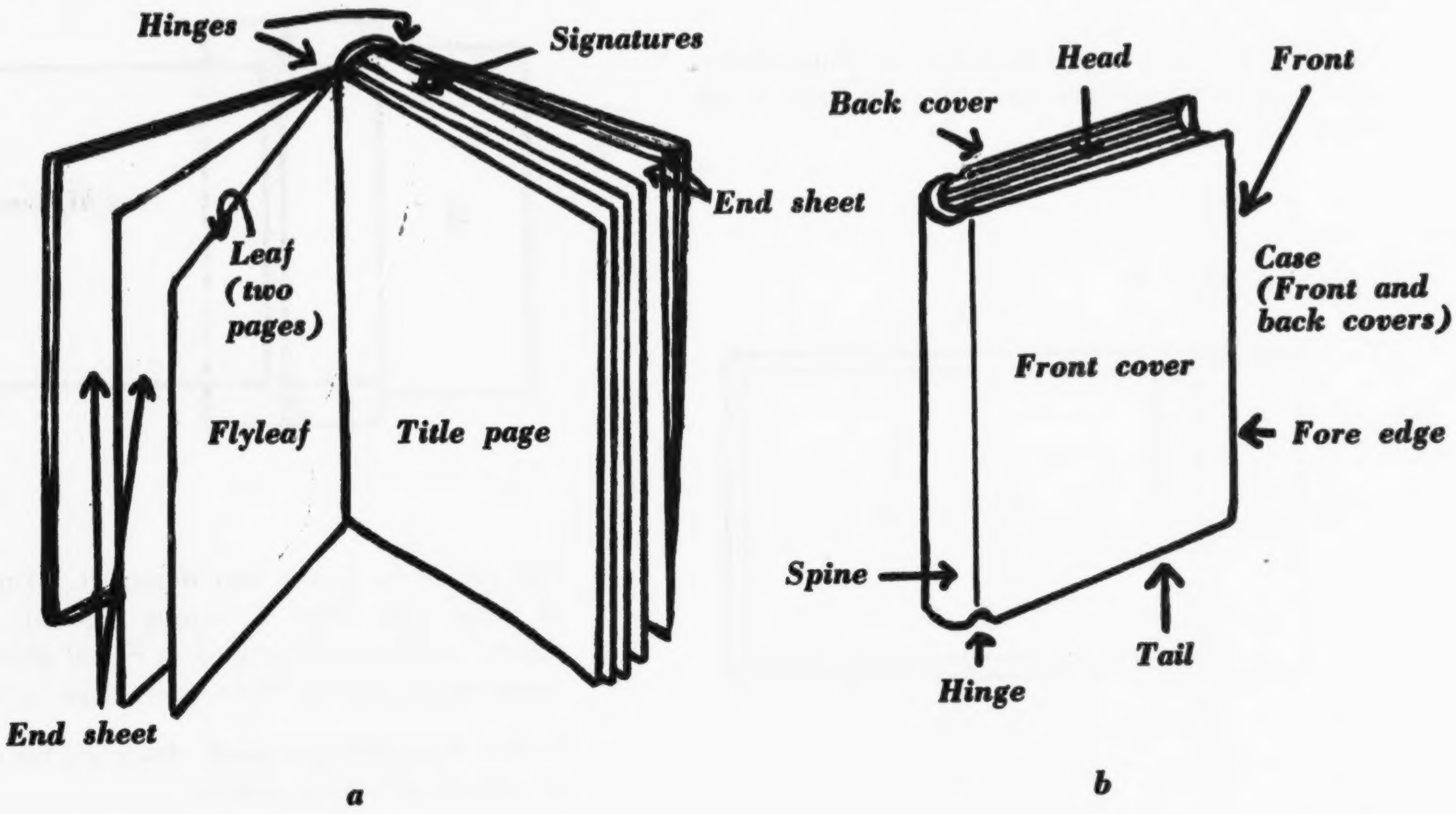


b

HAND-SEWED BOOK

The hand-sewed book can be made from grade 6 through high school. This activity develops appreciation for books, lettering, printing and illustration. The signatures may be filled with text and drawings before sewing or they may be filled in when the book is finished.

PARTS OF A BOOK


Hinges
Signatures
End sheet
Leaf (two pages)
Flyleaf
Title page
End sheet
a
Head
Front
Back cover
Case (Front and back covers)
Front cover
Fore edge
Spine
Tail
Hinge
b

EQUIPMENT AND MATERIALS

Chipboard
Bookbinders' linen or other cloth
Twill tape about 3/8" to 5/8" wide, depending on the size of the book
Thread, strong
Needles, long Japanese or awl
Brushes, rulers, pencils, scissors
Bookbinders' bone folder (optional)
Paper, bond or other paper suitable for inside leaves
Bookbinders' super or cheesecloth (double)
Wheat paste or other liquid paste
Vegetable glue thinned, library adhesive thinned, glue or rubber cement

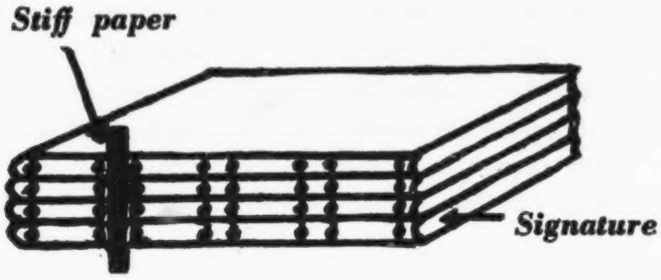
PROCEDURE

Folios: paper folded once. Use paper already cut or cut a large sheet to size required. Each folio makes two leaves or four pages. Decide how many pages are needed. Lay four folios one over another to form a section or signature. This is best for beginners, but more may be used.

Signatures: Make as many signatures as are needed for the book. Stack signatures one over another. Grasp head and tail of book with hands and jog or knock all the signatures together to the spine which will be on the table. Hold firmly and lay them down with the spine flush with the edge of the table.

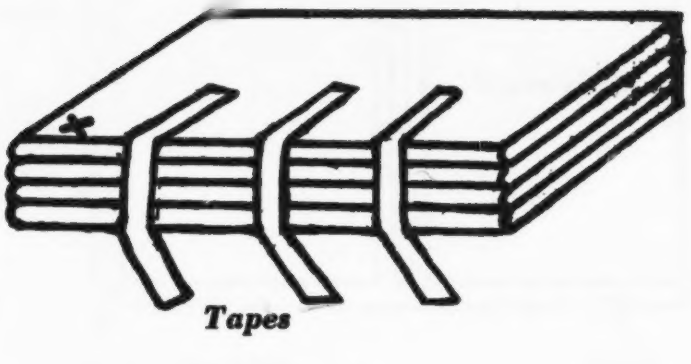
Cut a piece of stiff paper the same width as the tape. Draw lines down on the back of the signatures using the strip of paper for a guide as in diagram c. Draw lines 1/2" from head and tail of book, halfway between them in the center and halfway between center and outer lines. Be sure lines are parallel to each other and perpendicular to the table or the book will be crooked after sewing.

Punch holes with a needle or awl **on the line** exactly in the center of the back of each signature. When punching holes, hold the jogged signatures with one hand while punching with the other.



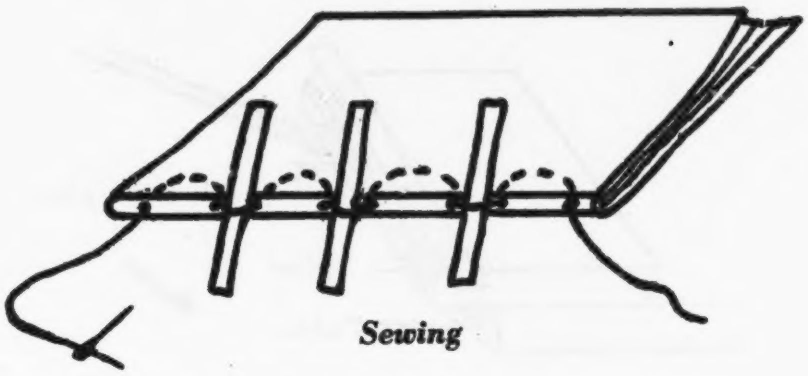
c

Cut tape into three pieces, long enough to extend about 2" over the spine onto the signatures on both front and back of book.



d

Mark the signatures lightly with an X at the head of the book as in diagram *d* so as to keep them in the same order and then push them back on the table. Take the top signature and lay it on the table. Slip one hand inside signature and pass needle with thread (about two feet long) into the hole on the right with end hanging which will be used later for tying. Bring needle and thread out of the second hole over the tape and in and out as in diagram *e*. Pull the thread carefully to tighten it and avoid tearing paper. Lay the next signature over the first, pass needle into the hole on the left, in and out as before. Tie thread of first and second signatures together in a square knot on the **outside** of book. Leave the hanging end about one inch long to be glued later to the spine.



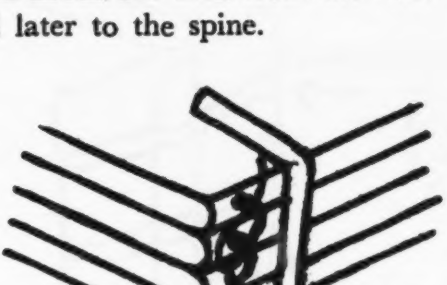
Sewing

e

Continue sewing until all the signatures are sewn together. Be sure to pull the thread tight after sewing each one. If a new thread must be added before the sewing is finished, tie the new and old threads with a square knot **inside** the signature between tapes. Cut hanging ends a little beyond the knot.

When sewing, be careful to keep each signature directly above the others so the edges will remain square and not need to be trimmed.

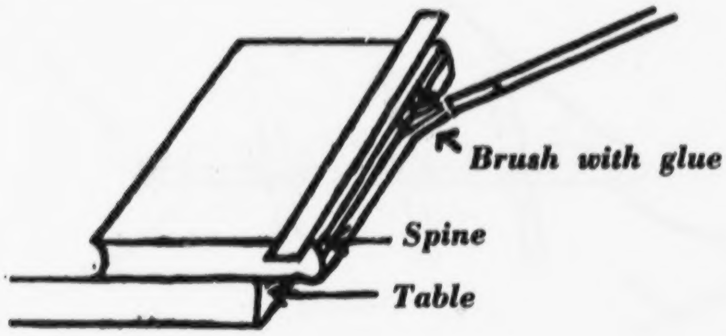
Tie the last signature to the one below with a kettle stitch. See diagram *f*. Pass the thread under the thread connecting the two signatures just under the top one, then up and under itself forming a loop. Do this again for a double kettle stitch. Pull it tight and cut the thread about one inch from the knot which will be glued later to the spine.



Kettle stitch

f

Pull the tapes tightly across the spine with the two ends an equal distance from it. Jog the signatures so they are even at spine and head, and place flat on the table over newspaper with spine projecting a little from the edge of the table. Place a ruler on top of signatures and hold firm. Apply glue to the entire spine, working the glue a little way between the signatures. Use a stiff brush and also the fingers if necessary. See diagram *g*. Press the book down and hold or put a weight on it until the glue sets.

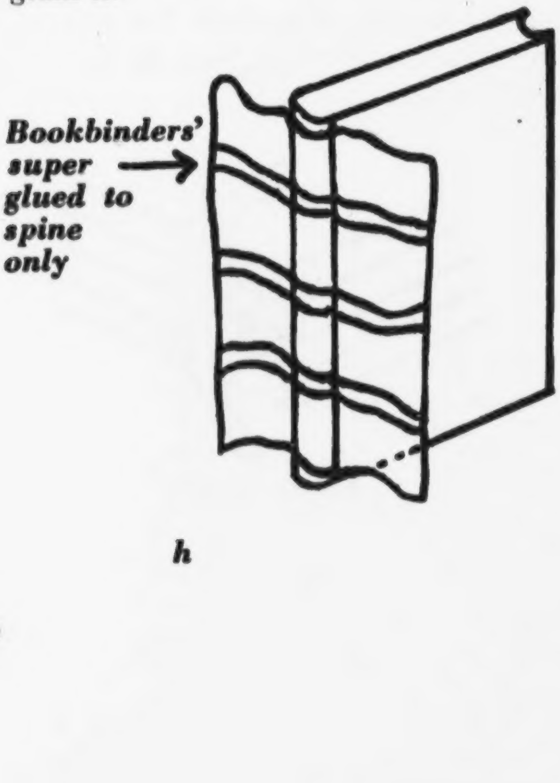


Glueing spine

g

The spine may be rounded, if desired, when the glue has set a little, but is not entirely dry. Round it by hitting the hinge or edge of the spine with the closed fist, first on one edge and then on the other. The middle signatures will be out further than those on top or bottom. Show a book with a rounded spine.

Cut a piece of bookbinders' super or cheesecloth about 1/4" shorter than the spine of the book and the same width as the length of the tapes. Glue it along the spine **only**. The rest of the super with the tapes will be glued to the end sheet later. See diagram ***h***.



h

CLOTH CASE, FRONT AND BACK COVERS

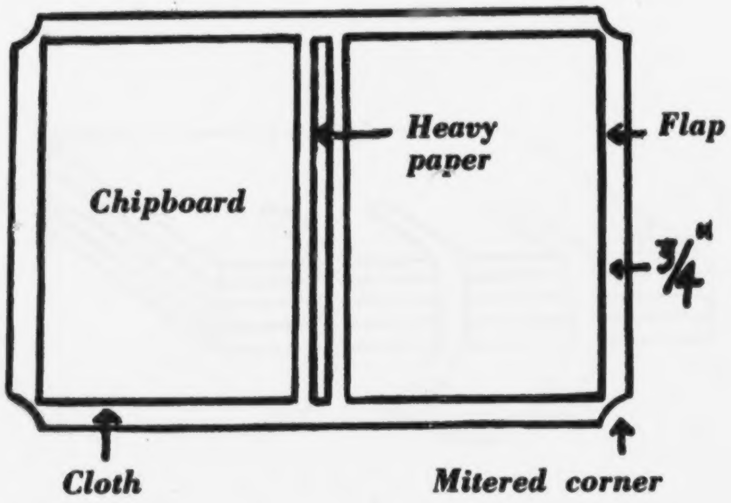
The cover or case may be of bookbinders' linen or other cloth. It may be designed as suggested for the hard folder cover in methods for decorating cloth. Refer to section on Decortive Design or Pattern.

PROCEDURE

Cut two pieces of chipboard the same width as the book and 1/4" longer than the height of the book. Cut a piece of thin cardboard, tagboard or heavy chart paper exactly the same size as the spine.

Lay the cloth wrong side up over newspapers. Place the thin cardboard strip and the chipboard pieces on the cloth. Allow 1/8" on each side of the center strip for hinges. Be sure all are parallel and vertical and that the cloth is not on the bias. Trace around the center strip and chipboard. Mark cloth 3/4" all the way around for cutting. See diagram ***i***.

Cut cloth and lay down again wrong side up. Apply glue to it and glue center strip and chipboard to it. Miter corners, leaving cloth beyond the point of the chipboard equal to the thickness of the chipboard as in diagram ***j***. Glue down flaps at head and tail. Turn the mitered corner back a little on dotted line so there will not be a raw edge.

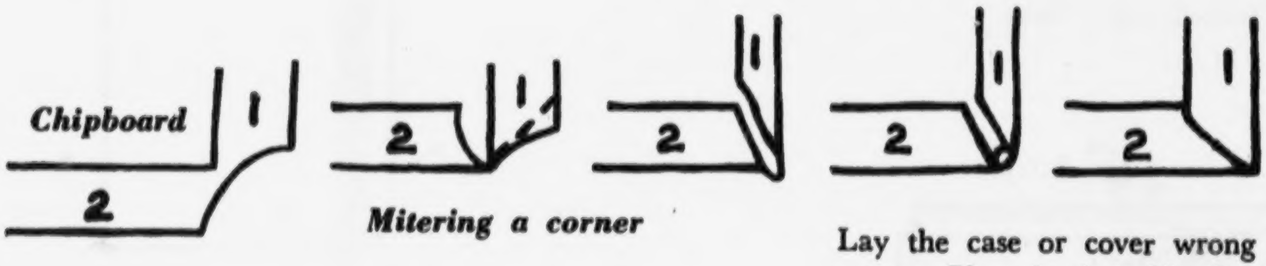


i

After the head and tail flaps are turned back, little hollows of cloth are left at the corners. Press these down over the point of the cardboard with a fingernail before turning down the fore edge flap. This will make a rounded corner instead of a pointed one. Show a commercially made book.

Glue fore edge flaps down to chipboard and the case is finished.

Show students how end sheets are placed at both ends of a book between the case or cover and the sewed book. End sheets should be of firm heavy paper. Cut the end sheets exactly the same size as the open folio used to form the signatures. This is the same height as the sewed book, but twice as wide. Fold the end sheets in the center with the right side inside.



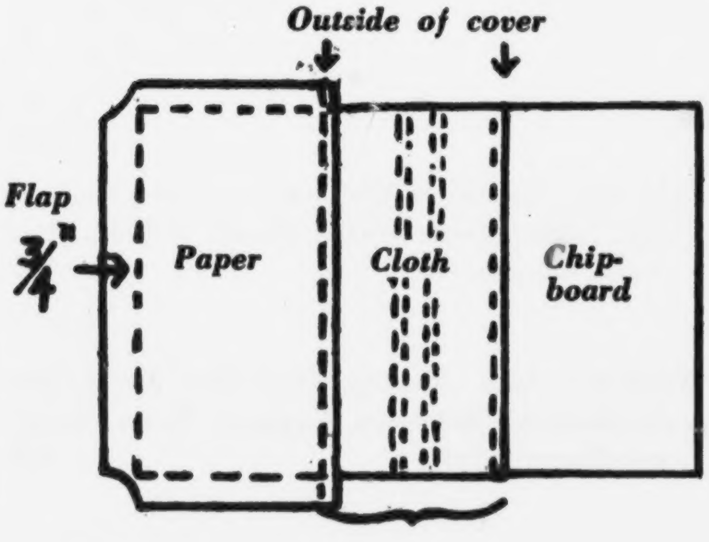
Mitering a corner

COMBINATION CASE OF CLOTH AND PAPER

Cut and design paper for front and back covers. Cut the 2 pieces of paper (designed by the students) to overlap the cloth about 1/2", and to extend beyond chipboard 3/4" for flaps.

Cut the cloth wide enough to cover the spine and extend over the front and back of cover between one to two inches beyond the hinges. It is the width in the center between arrows as in diagram *k*.

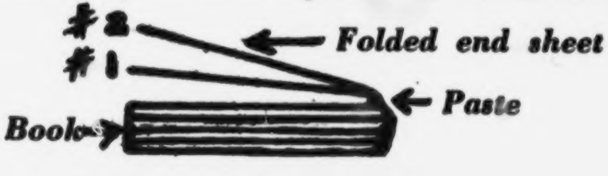
Glue center strip and two pieces of chipboard to cloth first. Miter corners of the two pieces of paper and place them upside down over newspapers. Trace around the chipboard laid over the two pieces of paper. Glue this to the paper inside the traced lines. Finish the same as the cloth cover.



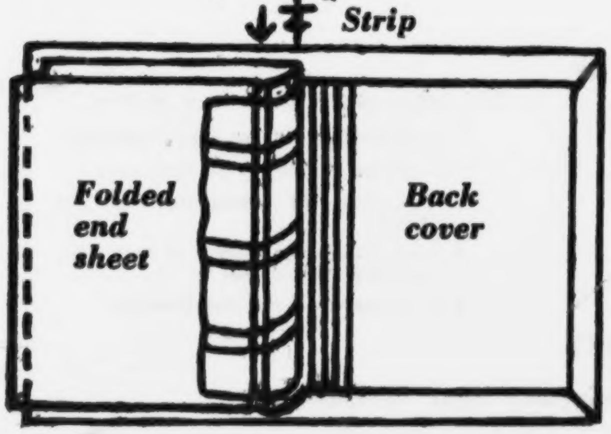
k

Lay the case or cover wrong side up over newspapers. Place book inside the front cover which is the left side of case. Show a commercially made book again. Measure in 1/4" from the left edge of the last signature and draw a line as in diagram *l*. Apply paste to the quarter inch strip. Lay the folded end sheet over the last signature with fold of end sheet on the right edge of the book and press down on the quarter inch strip. Let it dry. Place a clean piece of newsprint between the leaves of the folded end sheet.

Apply paste on the back half of the end sheet as wide as the super. Paste the tapes and super to it, pulling firmly and evenly with no wrinkles. Then apply paste all over this exposed end sheet. Pull out the piece of newsprint that was inserted which



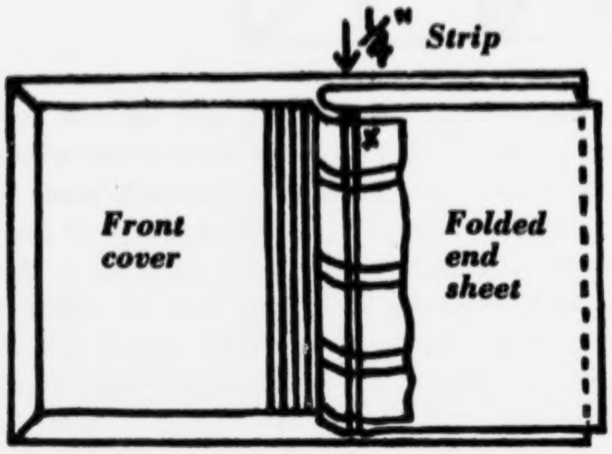
l



#1 half of end sheet pasted to 1/4" strip on last signature and tapes and super pasted to #2 half of end sheet

will probably have paste on it. Half close the book and press the end sheet down on the back cover with the rounded edge of a ruler or hand. The cover should project 1/8" beyond the end sheet at head, tail and fore edge. See diagram *m*.

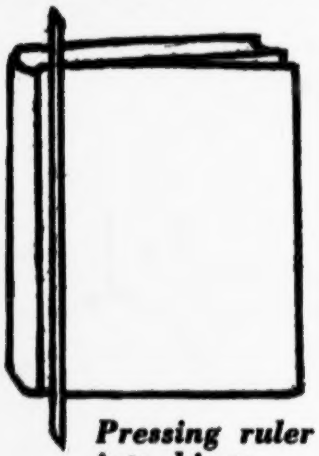
Place a piece of waxed paper over the pasted back half of the end sheet and close the book. Press firmly and open the front end of the book. Repeat the process on the inside of the front cover and place another piece of waxed paper there.



Front end sheet pasted to top signature and super and tapes pasted to top half of end sheet.

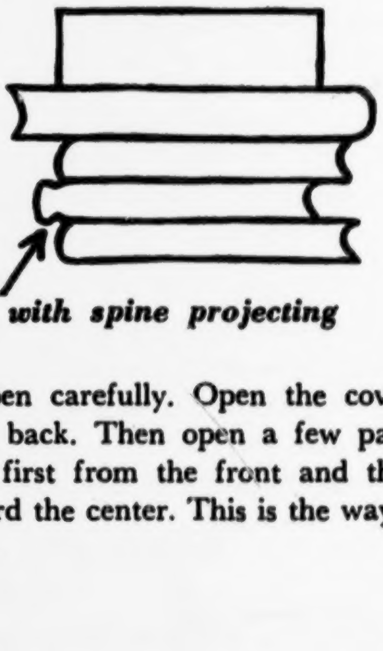
m

Press the rounded side of the ruler into each hinge on the outside of the front and back covers. Open each end and press a tongue depressor along the inside of the end sheet where it was folded, but do not tear the paper. Bookbinders use a bone folder for this and for smoothing the surface of a pasted cloth or paper.



Pressing ruler into hinge

Press between two books with the spine projecting. Pile more weight on top.



Pressing with spine projecting

When dry, open carefully. Open the covers first, pressing them back. Then open a few pages at a time working first from the front and then from the back toward the center. This is the way to open all new books.

RESOURCES

The Code used for books is as follows:

* — Recommended for school libraries

# — Listed previously in Resources

L.H. — Library of Hawaii, Music and Art Room

A.A. — Honolulu Academy of Arts, Educational Department

A.D. — Studio of the Art Director

BOOKS

Elementary and Secondary

Newkirk, Louis V. *Integrated Handwork for Elementary Schools.* San Francisco, California: Silver Burdett Company, c1940.

#Robertson, Seonaid M. *Creative Crafts in Education.* Cambridge, Massachusetts: Robert Bentley, Inc., c1953. Chapter 11. A.A., A.D.

*Woodcock, John. *Binding Your Own Books.* Harmondsworth, Middlesex, England: Brown Knight and Truscott, Ltd. A.D.

Zarchy, Harry. *Creative Hobbies.* New York: Alfred A. Knopf, c1953. Pages 199-249. L.H.

MOSAICS

Mosaic is the art of assembling units of material such as stone, marble, metal, small wood, clay or glass and inlaying them into another material such as cement. It is an art form that by its very make-up concentrates on design. Objects must be portrayed in simplified terms. Color is essential to mosaic design. The surface may include a wide range of hues found in stone, colored glass, ceramic tesserae and tiles.

The irregularities of a mosaic, through reflections at different angles, produce a vibrant glitter or sparkle not possible in any other medium. Mosaic shows sparkle to advantage at a distance or close by on an outdoor wall or within an enclosure.

Mosaic is weather resistant and by using a proper cement is practically indestructable. Mosaics are aptly called "pictures for eternity."

Mosaic was an important mural art of the 4th to the 14th centuries. Today it is re-emerging as a vital pictorial form. Evidence of revival can be seen here in Hawaii as well as other parts of the world. The revival of this ancient art form is particularly compatible with 20th century architecture. Mosaics are used to enrich modern buildings, furniture and sculpture.

Group Project—Ages 10 and 11

VALUES

Working in mosaic:

Develops appreciation of mosaics.

Offers opportunity to work with three-dimensional materials to form a two-dimensional or three-dimensional product.

Uses many new kinds of tools and materials and also familiar objects in new ways.

DESIGN

Mosaics lend themselves to expeimentation in the use of many different kinds of materials for tesserae.

The purpose of the mosaic determines what process you will use and whether it will be an individual or a group project. A table top or floor must be level. A mural, sculpture or plaque may have some parts raised a little higher than other parts. If an area is raised, it may be used as an element of the design.

Determine the arrangement of tesserae to form interesting patterns within the various areas of the design. Monotony results when tesserae are arranged only in straight lines. Space the tesserae very close together or far apart. Allow the direction of the tesserae to be an important part of the design. Whole areas of cement or mortar can be used without any tesserae. Large pieces of tile, glass and marble may be used in combination with the small pieces to fill in the design.

There are two different ways of setting the tiles called direct and reverse methods. The simplest way of creating a mosaic is called the direct method where the tiles or tesserae are applied to the surface that is to be covered. This method is recommended for small wall plaques, counter tops and tables.

EQUIPMENT AND MATERIALS

Tiles, glazed or unglazed, commercial or homemade

- Tile glazed only on one side
- Tile encaustic with color mixed in clay and unglazed
- Homemade tiles or tesserae. See paragraph below on How to Make Ceramic Tesserae.

Other sources of tesserae: stones (cut), gravel, pebbles, glass, coral, shells, mirrors, marble, natural crystals such as olivines, jaspar and quartz (found in Hawaii), lava, furnace slag, costume jewelry, beads, marbles, broken bottles, broken china, metal scraps, charcoal, beach glass, buttons, scraps of broken or imperfect tiles

Background material: waterproofed plywood or composition board 1/8" to 5/8" thick, thickness depending on size of panel

Reinforcing material: wire screen, wire mesh 1/4" to 4" gauge, chicken wire, binding wire or any other flexible wire and brass or galvanized nails

Waterproofing material: water seal, lacquer, varnish or shellac

Binding material: grout (tile setters cement), magnesite, mortar (sand, white or black mixed with cement), and concrete (base under mortar for large mosaics to be used outside), black mastic (tile adhesive)

Adhesive: white glue in plastic bottles or in jars

Tools: brush for applying water seal, hammers, tile nippers, large spoon or trowel, spatula

Colorant: water soluble dry pigments such as cement colorant or dry tempera

HOW TO MAKE CERAMIC TESSERAE

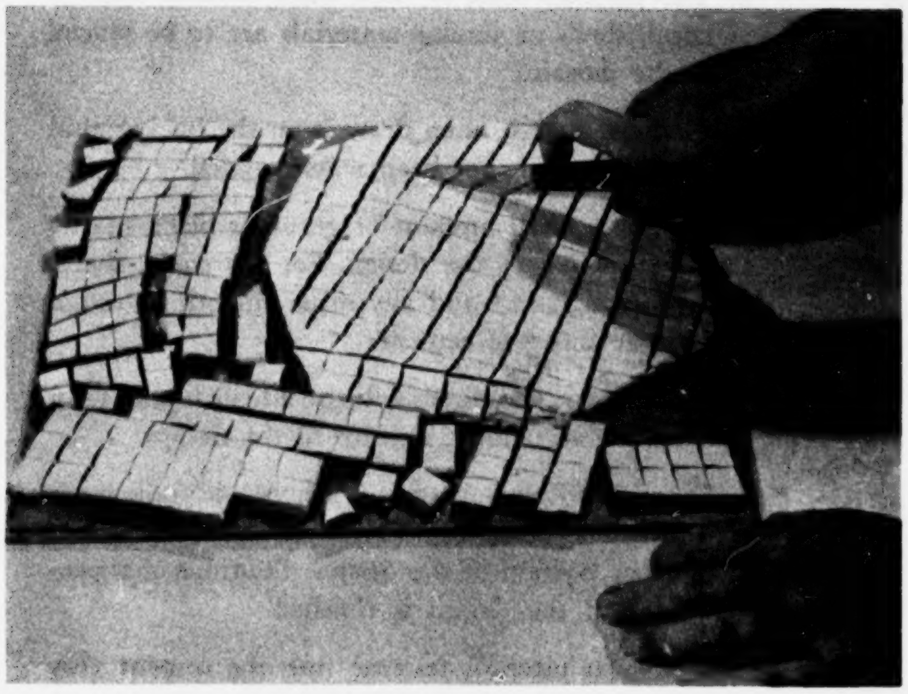
The tessarae may vary in size and shape, including narrow strips (straight or curved).

Roll out thin clay slabs 1/4" or even less with a rolling pin. Refer to Slab Construction in section on Ceramics. Glaze slabs while still wet. Cut clabs in long strips while still damp and place on a kiln-washed kiln shelf. The kiln may be fired even before the strips are thoroughly dry if they are no thicker than 1/4".

Use tile nippers to cut the fired glazed clay strips into smaller pieces of tesserae. Cutting after firing makes the pieces less mechanical and more interesting. Or the clay slab may be cut into small pieces of various shapes rather than long strips before firing.

Pieces of broken colored glass such as milk of magnesia bottles can be placed on a kiln-washed shelf and fired. Make a wall of clay around the edge to keep glass from flowing all over the kiln. It can be fired at the same time as clay even though it melts at a low temperature.

Glazing the Slab



Cutting the Strips

DIRECT METHODS

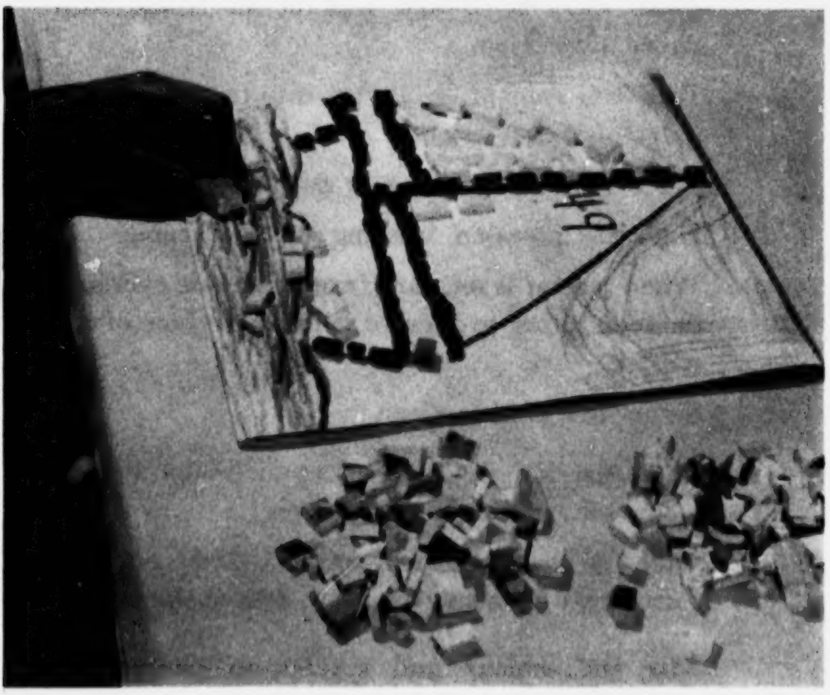
1. Plan the design, then draw it on the background material which has been waterproofed.

   If necessary, the tesserae are cut with a tile nipper or pounded between two heavy sheets of cardboard to break them to desired sizes. A variety of sizes and shapes for tesserae makes the mosaic more interesting. For cutting tiles with nippers, see Suggestions.

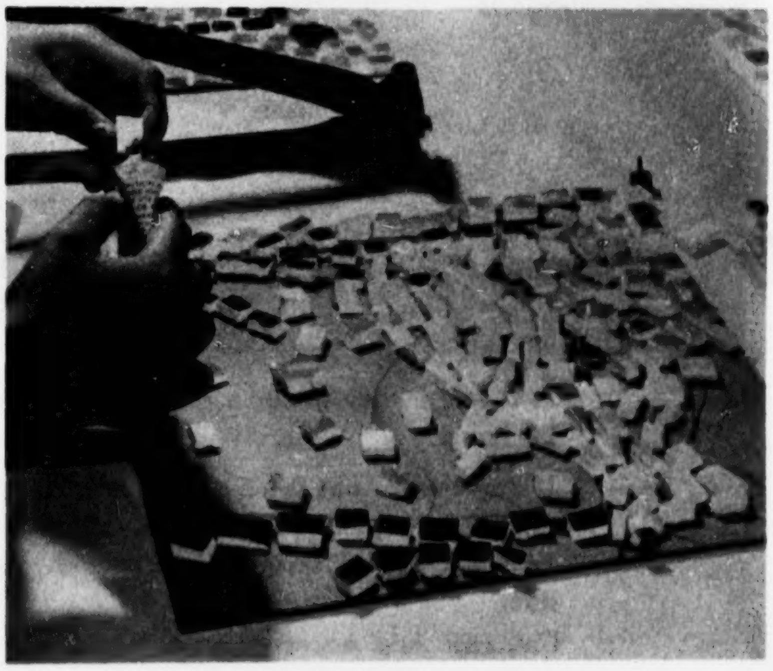
   Anchor the pieces with adhesive to the background material, following the design which was drawn on the background and leaving a little space between tesserae.

   Mix the grout (tile cement) with water to the consistency of heavy cream.

Planning the Design



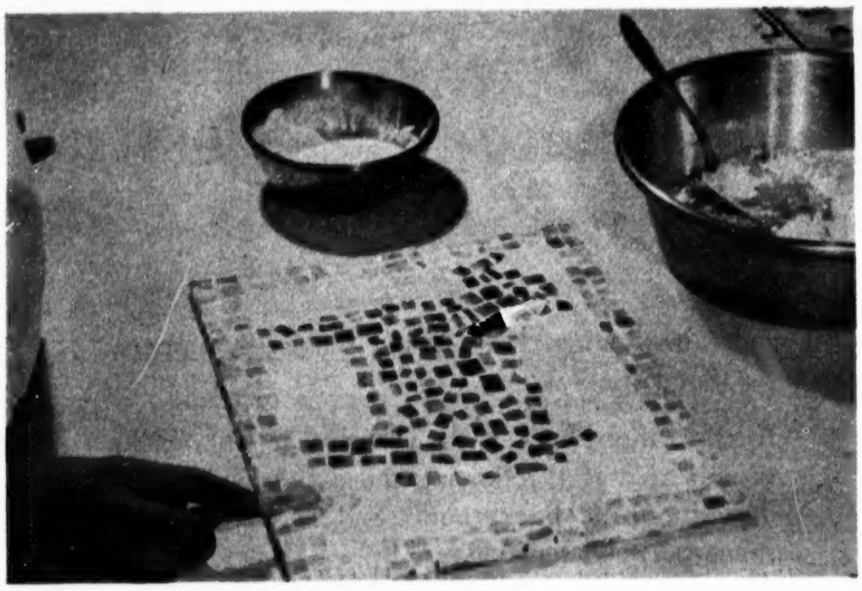
Glueing Tesserae to Background



After the mosaic is completed and the adhesive has thoroughly dried, the spaces between the tesserae are filled with the tile cement, a process called **grouting.** The cement can be stained with water soluble colors or left white. See Suggestions. If the mosaic needs to be leveled, press the surface with a flat board.

When the cement is set, **but not hard,** the mosaic is then wiped with wet rags or a sponge to take away any excess cement. Great care should be taken in this process to remove all cement. Several changes of water are necessary.

Grouting



It is left to dry under a damp cloth for at least 24 hours.

If any cement has dried on the surface, it may be removed with hydrochloric acid or muriatic acid, 1/5 acid to 4/5 water. Wash quickly with soap suds.

Caution: Add water to acid. Never add acid to water.

2. This method must be used when tesserae such as coral, shells or similar materials are to be placed in the mosaic.

   Plan the design, then draw it on the background material which has been waterproofed.

   Spread **a small amount** of grout or black mastic on a **portion** of the design. Set the coral, shells, lava (rough aa) and any other smooth or rough tesserae **into** the cement.

   The cement sometimes will rise a little higher than the tesserae, adding texture to the design.

   When this first portion is finished, add some more cement to the background and inlay tesserae for another portion of the design. Continue this process until the design is finished.

   Lay each piece of tesserae into the cement very carefully so no cement gets on top of the tesserae.

   If the mosaic needs cleaning when completed, clean as described in Direct Method #1.

REVERSE METHODS

1. Draw design on heavy paper and paste mosaic tesserae pieces face down on the paper.

   Make a frame with four pieces of wood to fit the design. Cut a piece of plywood for the back of the frame which will be nailed on later. Lay frame on a piece of cardboard or pad of newspapers to protect the table.

   Place sheet of pasted tesserae in frame with paper side down.

   Pour wet cement or mortar into frame to cover sheet of paste tesserae.

   Place wire mesh into wet mortar.

   Nail the plywood backing on the frame.

   When mortar is set, turn framed mosaic over and dampen paper to remove it from the face of the mosaic.

   Scrub the mosaic clean.

2. Make the design. Organize mosaic material as to color and texture in little boxes.

   Glue the tesserae or fragments with the adhesive face down on heavy paper to follow the sketch.

   Mix the mortar and spread on background material.

Ease the sheet, paper side up into the bed of fresh, or wet cement or mortar.

If the mosaic needs a frame, a wooden frame can be made backed with masonite or plywood and reinforced with wire screening or other reinforcing material in the bottom of the frame. Fill this with mortar and place the sheet of pasted tesserae into it .

Tap the paper with a mallet. After the mortar has begun to set, dampen paper and peel the dampened paper off to reveal the face of the mosaic. Compare mosaic with sketch and make corrections. If the mosaic needs to be leveled, press the surface with a flat board.

Clean the face of the mosaic as described for the direct method.

SUGGESTIONS

Binding mixtures that hold the tiles in place are magnesite, grout (tile setters' cement), mortar, concrete and black mastic (tile adhesive).

Grout and magnesite are strong enough for indoor and smaller mosaics. Magnesite requires wire reinforcing material tacked to the background material and protection from water.

Mortar is strong and may be used for any mosaic. It is a mixture of one part cement to two parts sand with water added to the consistency of heavy batter.

Concrete is used for the base of very large mosaics under the layer of mortar.

To remove paper from commercial tiles, soak in water, shake lightly so tiles fall off, then dry them.

Cut tiles with tile nippers as follows:

To cut squares or rectangles, hold one side of tile with thumb and fingers. Grasp opposite side of tile with blades of tile nippers just at edge of tile. Squeeze handles together with a quick nip and cut. Cut away from the face. To cut tile at an angle, hold nippers at a corner of tile and cut. Care should be taken not to cut close to the fingers.

Dry pigment colorant may be added to grout or mortar, but it must be added to the dry cement before water is added. If the color is not dark enough when the mosaic is finished, it can be stained with a mixture of colorant and chloride. Dry tempera is not sunfast, but may be used as a substitute for cement colorant.

Remove excess mortar from each section of the mosaic before it hardens.

Watch carefully to see that excess grout or mortar is removed from the outside edge of the completed section. This may be done with a knife and a water-soaked sponge within four or five hours. The mortar usually takes 24 hours or more to set permanently, depending on the proportion of water used. A chisel will remove whole slabs before it becomes permanently set. Tesserae can be removed even after this, but with great difficulty.

RESOURCES

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A.A. — Honolulu Academy of Arts, Educational Department
A.D. — Studio of the Art Director

BOOKS

Elementary and Secondary

*Aller, Doris and Lee, Diane. *Sunset Mosaics.* Menlo Park, California: Lane Publishing Company, c1959.

*Jenkins, Louisa and Mills, Barbara. *The Art of Making Mosaics.* Princeton, New Jersey: D. Van Nostrand Company, Inc., c1957. L.H., A.A., A.D.

#Long, Lois Culver. *Ceramic Decoration. Book No. 1.* The American Art Clay Company, Indianapolis 24, Indiana, c1958. Ceramic Mosaics, pages 46-49. pages 46-49.

*Sister Magdalen Mary, I. H. M. *Mosaics for Everyone.* Immaculate Heart College, 5515 Franklin Avenue, Los Angeles, California, c1958. A.D.

Young, Joseph L. *Course in Making Mosaics.* New York: Reinhold Publishing Corporation, c1957. L.H., A.A., A.D.

FILMS

Grade Level	Title	Color	Time
1-6	Weeds and Mosaics	Color	5 min.
3-12	Mosaic Experiments	Color	25 "
7-12	Making a Mosaic	Color	10 "

HAWAIIAN CRAFTS

There is a wealth of native material in Hawaii which may be utilized for original craft articles. Too often the design is a repetition of what has been made in the past. These materials can be a challenge to students to use them in new ways. The following sections on coconut craft, lauhala, bamboo and seed jewelry are only suggestions. Encourage pupils to experiment with new ideas in using these materials.

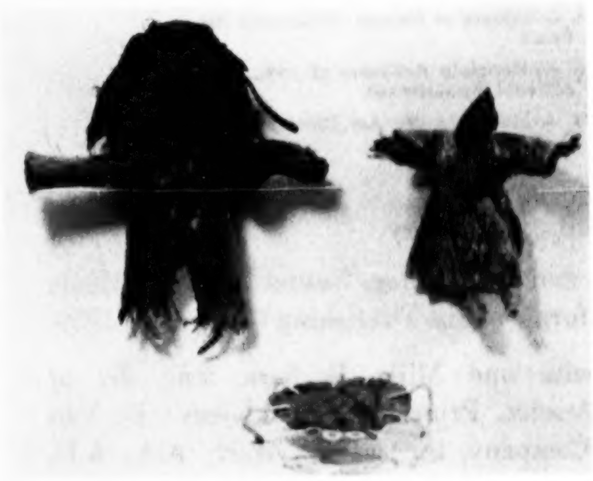
VALUES

Designing with native materials:
- Encourages appreciation of early Hawaiian Crafts.
- Gives an awareness of the natural materials Hawaii offers for creative experiences.
- Stimulates invention and exploration in original design with native materials.
- Develops appreciation for better design among island handicrafters and consumers.
- Offers a hobby, avocation or vocation.

NATIVE MATERIALS AND USES

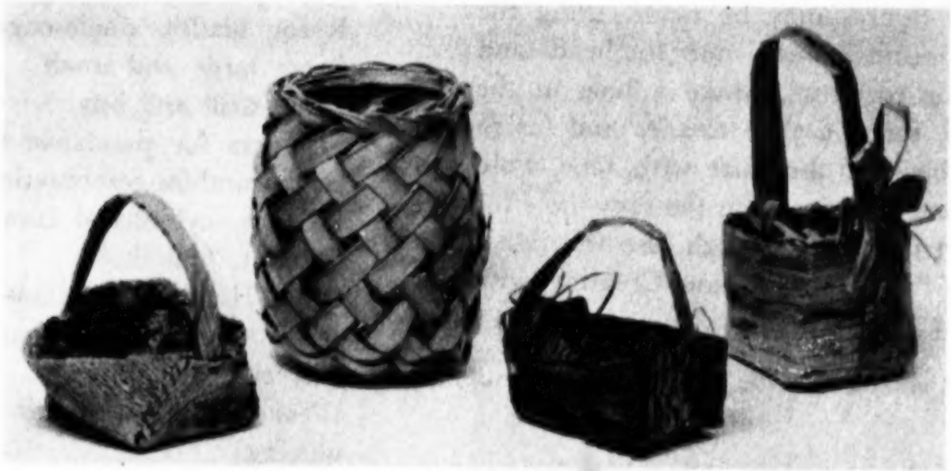
Material	Suggested Use
Beach findings	
Beach pebbles	Castanets, mosaics
Coral	Jewelry, mosaics, sculpture
Driftglass	Jewelry, mobiles, stabiles, mosaics
Driftwood	Sculpture, mobiles, stabiles
Shells	Jewelry, leis, collage, mosaics
Feathers	Leis, ornaments, hula gourds
Trees and shrubs	
Coconut	
Fabric	Book covers, purses, dolls and crèche figures, weaving, masks, collage
Frond stem, base of	Masks
Leaf part of frond	Baskets, screens and hats (woven)

Crèche



From left to right: Doll — Age 9; Crab—Age 5; Doll—Age 10

Material	**Suggested Use**
Midrib of leaf	Weaving, flower arrangement
Sheath around flower spray	Boat dishes, flower containers
Shell of coconut	Ash trays, bowls, pins, buttons, spoons, puppets
Coconut, large	Masks, heads for large puppets
Coconut, small	Heads for dolls and crèche figures
Mulberry tree	
Bark	Tapa
Pandanus or hala tree	
Lauhala leaves	Place mats, coasters, baskets, hats, purses, slippers, weaving, Easter baskets
Fruit of pandanus	Leis, paint brushes
Papyrus	
Stems	Weavings, paper
Pili grass	Thatching roofs of huts
Reeds from marsh	Weaving
Royal Palm	
Sheath	Weaving
Ti	
Leaves	Hula skirts, dolls
Woods	
Kamani	Bowls, bookends, buttons, calabashes, plates, paper knives, salad forks and spoons, trays, vases, sculpture, wall placques
Koa	
Jacaranda	
Milo	
Monkey pod	
Royal Poinciana	
Bamboo	Ash trays, bowls, wind chimes, belts, flutes, hair ornaments, novelty pins, paper knives, shuttles, flower containers, earrings, slides for ties, bracelets, belts, buttons Tiny bamboo sticks for stick and shadow puppets



From left to right: Coconut Fabric — Age 8; Coconut Leaves—Age 15; Banana Baskets—Age 8

Material	Suggested use
Seeds, nuts and pods of trees	Belts, boats, buttons, keytags, earrings, leis, necklaces, rings, slides for ties (Kukui nuts)
Shark	
Skin	Drum head
Teeth	Jewelry
Fishing line	Crab nets, nets for glass floats, belts

SUGGESTIONS

Jewelry finding such as earring backs may be purchased in craft shops and variety stores.

Dolls and crèche figures may be made, using the tiny coconuts or round Kamani nuts for heads and coconut fabric for costumes. Make a hole in the base of the head, insert a pipe cleaner and fasten it inside to the back of the skirt with tape. Fold another pipe cleaner and insert in the same hole for arms. If the skirt isn't stiff enough, use the fabric double. Refer to "angel" in section Creating with Paper.

The dry coconut sheath can be bleached in clorox water.

Avoid shiny varnish on articles. Use clear lacquer or French polish. The recipe for French polish is given under Coconut Craft.

Many of the processes suggested may be found elsewhere in the guide.

EQUIPMENT AND MATERIALS

Carving tools for wood: gouges, chisels, veiners.
Files: flat, round, triangular
Knives, X-acto or pocketknives
Looms, commercial or homemade
Mallets, wooden and rawhide
Prick punch, ice pick or awl
Razor blades, single-edged
Saws, large and small
Hand drill and bits
Strippers for pandanus fiber (lauhala)
Carborundum combination stone
Cartons, cylindrical cereal cartons
Cement, household Cord, fish line
Glue, Higgin's vegetable and household cement
Jewelry findings: pin backs, ear screws, wires, eyelets, chains
Clear lacquer (applied to jewelry findings after glueing)
Needles for stringing leis
Pumice for polishing coconut shells
Sandpaper fine and medium
Screws, 1/4" brass to fasten sheath of coconut to base of wood for flower container
Steelwool, fine for final polishing after application of clear lacquer
Thread, sizes 20, 30 and 40 for leis
Wood Yarns

RESOURCES

The Code used for books is as follows:

- * — Recommended for school libraries
- # — Listed previously in Resources
- L.H. — Library of Hawaii, Music and Art Room
- A.A. — Honolulu Academy of Arts, Educational Department
- A.D. — Studio of the Art Director

BOOKS

Upper Elementary and Secondary

Cooke, Viva and Sampley, Julia. *Palmetto Braiding and Weaving*. Peoria, Illinois: The Manual Arts Press, c1947. L.H.

Handy, Willowdean Chatterson. *Handcrafts of the Society Islands*. Honolulu, Hawaii: Published by The Bishop Museum, c1927. L.H.
The methods used in these books describe uses for both coconut leaves and lauhala strips.

SHELLCRAFT

Hawaii's beaches have small shells suitable for shellcraft. The early morning is the best time to find them.

EQUIPMENT AND MATERIALS

Shells
Tweezers
Single-edged razor blade
Transparent cement in tube
Piece of plate glass, tile or masonite
Plastic backs for brooches and earrings
Toothpicks

DESIGN

Arrange shells in various ways, creating an original design.

PROCEDURE

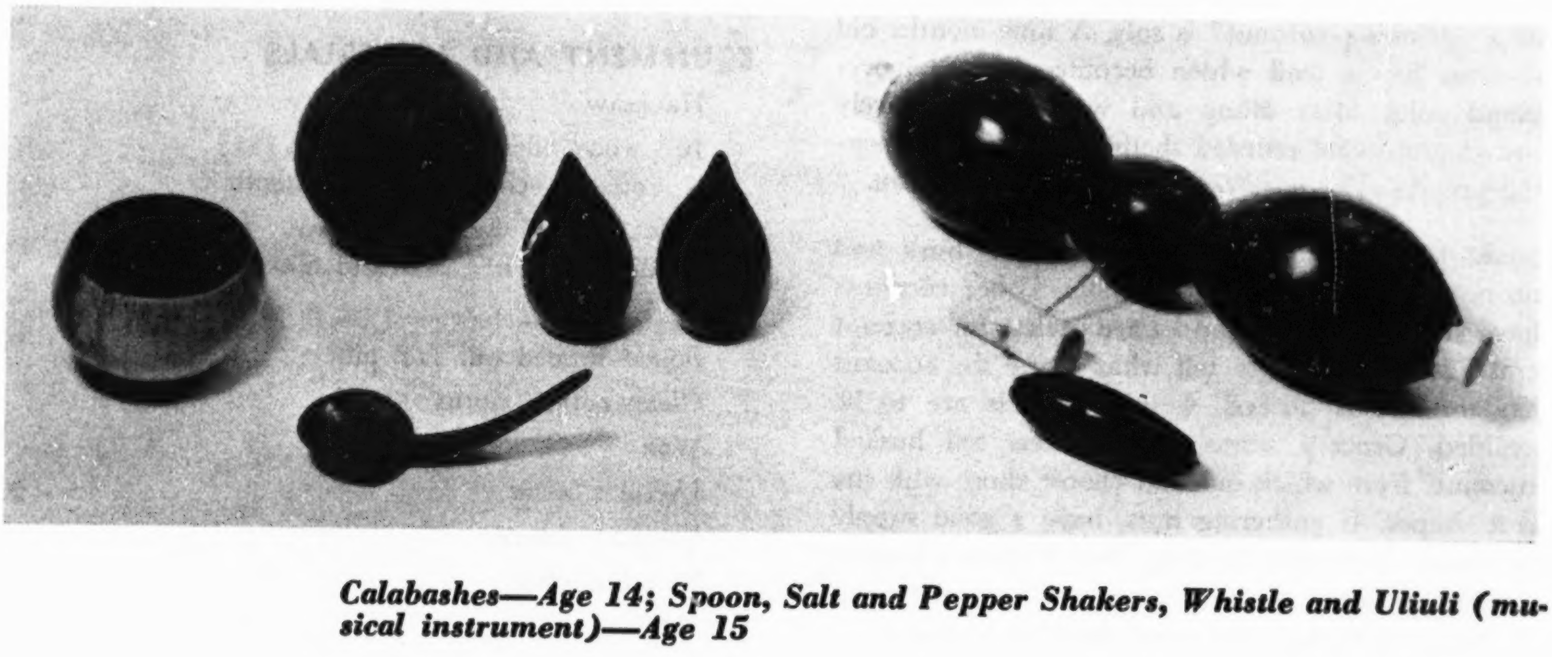
Place a littel cement on the glass or tile. Press the shells onto the cement. When it has set, slip the razor blade under the cement and pry it loose from the glass. Or cement to plastic backs. Plastic backs may be purchased for broohces and earrings. Apply the cement to the plastic and then attach the shells.

Use cement sparingly. Hold tube in left hand and keep tweezers free of cement at all times. A toothpick will aid in adjusting shells in cement to the desired pattern.

Pin backs are attached above center on back of brooches. When ear screws are attached, slip them over the edge of a cardboard box, which has been set on its side so the earrings will dry level.

HAWAIIAN COCONUT CRAFT

Coconut craft is the art of making bowls, cups, spoons and other articles from the shell of the coconut. The coconut shell, being one of the hardest woods known, will last many years. The Hawaiians handed their fine bowls down from generation to generation. The methods used in working the shells are exactly the same as those used in the days of ancient Hawaii except that the tools used are the modern steel counterparts of the old Hawaiian stone saws and polishing stones. No power tools are used.



Calabashes—Age 14; Spoon, Salt and Pepper Shakers, Whistle and Uliuli (musical instrument)—Age 15

DESIGN

The beauty of the coconut bowls and other products lies in their shapes and individual colors. The beautiful color and patina are brought out in the polishing process. In the old days the Hawaiians never fastened two shells together for fancy ornamention. The individual shells will stand up and need no fancy bases or stands. Liquids in coconut bowls will not spill readily for the liquid will roll with the bowl.

USES

The products made in this craft are useful as utensils for food or as gifts. There are many different items that can be made from the coconut shell. Coconut bowls, either with the inside skin left on or sanded out, can be used safely for hot or cold foods, greasy or non-greasy. They also make good dishes for popcorn, potato chips and candy and the shallow ones make fine ashtrays. Encourage students to use imagination in creating new ideas or uses.

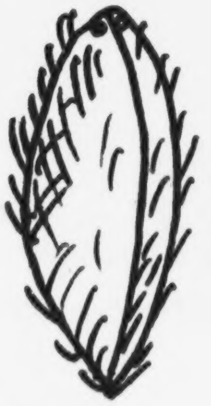
Complete table sets for a luau can be made from coconuts of different sizes and shapes. Collect as many coconuts as possible. Then match the different sizes into sets of cups, bowls and dishes.

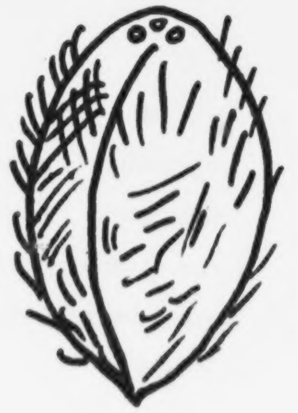
COCONUTS

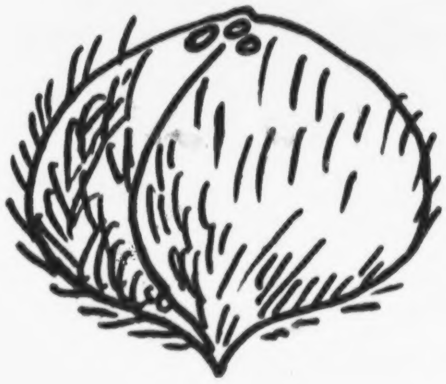
A coconut stays on the tree about a year from the time the flower is pollinated until it falls to the ground. When coconuts begin to get patches of brown on the husk, they are mature. The shell of a mature coconut is dark brown and hard, but that of a "drinking coconut" is soft. A nine-months old coconut has a shell which becomes a clear ivory-blond color after oiling and waxing. The lovely brown-and-blond mottled shells illustrate the ripening process. The husk of these shells is still green.

Some trees bear coconuts that are all husk and do not have any shell inside them. Other coconuts have shells that split and so are useless for coconut craft. It is difficult to tell what shape the coconut has until it is husked. Lopsided shells are to be avoided. Grocery stores and markets sell husked coconuts from which one can choose those with the best shapes. If gathering nuts, have a good supply to choose from after husking. Never leave a husked coconut in the sun for the heat will make the oil in the meat expand and cause the shell to crack.

Long, slender coconuts are useful but are hard to find. The slightly rounder shapes are most common. These make good lengthwise bowls. The pumpkin-shaped coconuts are most highly prized. These are flat enough to sit upright when the points are taken off.







EQUIPMENT AND MATERIALS

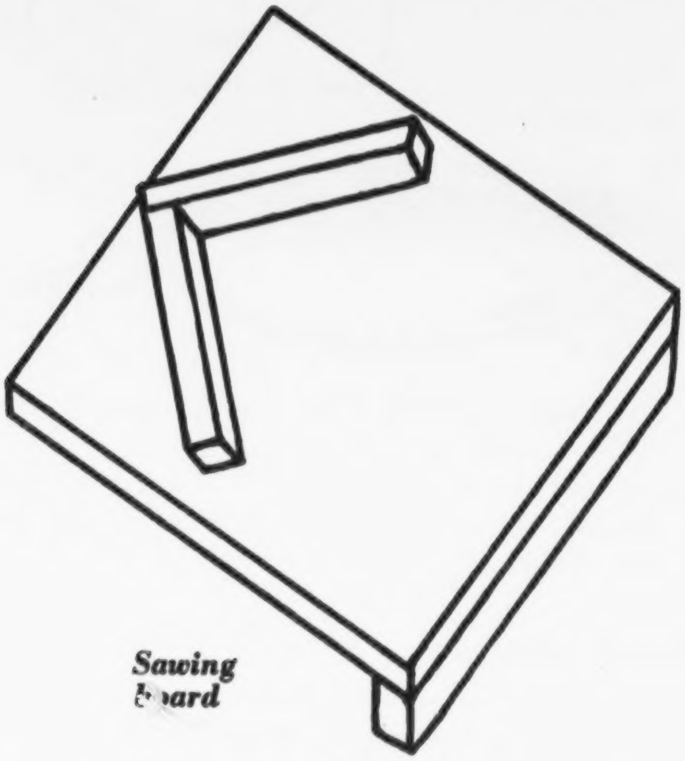
- Hacksaw
- 10" wood files, half round:
  rough, second-cut and smooth
- "Wet-or-dry" Sandpaper Nos.
  220, 320, 400, 500 and 600
- Wire brush
- Boiled linseed oil, 1/2 pint
- Clean cotton cloths
- Wax
- Lacquer, clear
- Lacquer thinner
- Wood alcohol
- Shellac

COCONUT BOWLS

PROCEDURE

Cut coconut shell open. The position of the "eyes" and the "mouth" on the end of the coconut determines the way it is cut.

Note: A sawing board is a help in holding the coconut in place. This is a piece of wood about 1" x 10" with two strips of wood nailed to one side, forming a "V" at one end. At the opposite end another strip of wood is nailed to the under side of the board to hold it against the edge of the table while it is being used for sawing or filing the shell.



Sawing board

Remove the coconut meat by chipping with a table knife. Do not mar the inside of the shell.

Brush fiber off the outside of the shell with a wire brush.

Smooth top edges of bowl with flat side of rough wood file, using a diagonal stroke and keeping the edge of the bowl flat.

Smooth the two ends of the top edge with round side of rough file, keeping edge flat.

Repeat smoothing as above, using second-cut file and then repeat, using smooth file.

Round top edge with smooth file, using flat side on outside of edge and round side of file on the inside.

File all ridges on outside surface of bowl with rough file, then with second-cut and then with smooth file.

Thoroughly sand the filed places with five grades of sandpaper starting with the coarsest No. 200 and ending with No. 600. Be careful not to let the sandpaper scratch the portions of the bowl that have not been filed.

FINISHING THE BOWL

Oil Finish: Pour 3 or 4 tablespoonfuls of boiled linseed oil into a small dish. Dip fingers into the oil and rub it into the shell inside and outside for at least ten minutes. Set the bowl aside for a couple of hours to allow the oil to soak into the wood. Then with a dry cotton cloth, polish all the oil off the surface. Linseed oil usually takes about two weeks to harden so each day the shell should be polished with the cotton cloth to remove the oil that creeps out onto the surface. After the first coat of oil has set (hardened), apply a second coat, and then for an exceptionally fine finish, a third, a fourth and a fifth application, all at two-week or longer intervals. It is most important to polish the shell each day between applications of oil, using the clean cotton cloth. Otherwise the surface will become tacky and the shell will not take a polish. The oil should be IN the wood and not ON it. After the last application has hardened thoroughly, it is ready for waxing.

Lacquer Finish: A quicker type of finish is the lacquer rub. This may be completed in one application and will be quite satisfactory if done carefully. To one part of clear lacquer, add two parts of lacquer thinner. Moisten a clean cotton cloth with this solution and rub the coconut shell thoroughly inside and out. Moisten and rub, moisten and rub until the pores of the shell are filled with lacquer, but none is built up on the surface. This takes perhaps ten to fifteen minutes for one coconut shell. When the rubbing is finished, let the shell dry for one hour in a cool, breezy spot and then it is ready for waxing.

French Polish: This is a quick and very satisfactory finish, undoubtedly the easiest to apply. To one-half cup of liquid shellac, add one-half cup of wood alcohol and one tablespoon of boiled linseed oil. This solution should have the consistency of water. If it is too thick, add more alcohol. Moisten a clean cotton cloth with this French Polish and rub it thoroughly into the shell inside and out. Keep moistening and rubbing until the grain of the wood is filled with the French Polish. Do not let it build up on the surface as that would hide the natural beauty of the coconut shell. The admixture of the linseed oil to the French Polish makes it possible to continue rubbing the surface without the cloth sticking, thus producing a smooth even finish. When the shell has been thoroughly rubbed, set it aside in a cool, breezy place to season for 24 hours, after which it is ready for waxing.

Waxing: Automobile Simoniz is the best wax to use, but any paste wax will be satisfactory .With the finger tips or a small piece of cotton cloth, apply a coating of wax to the entire shell inside and out. This coating should be **as thin as possible.** In about ten minutes this coating should be dry. Rub the shell briskly to produce a soft satiny sheen. Apply two more coats of wax, following the procedure as outlined above for each and then the coconut shell utensil is ready for use.

ROUGH TEXTURED FINISH

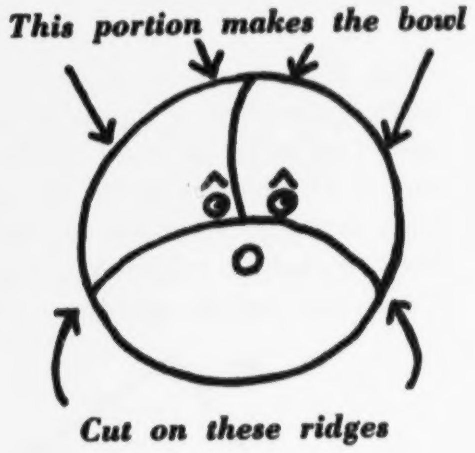
Some coconuts have shells that are interesting and attractive because of their very rough surface. These make handsome bowls. The bottoms are filed smooth so they can stand evenly and the top edges filed and sanded. Remove the outside fiber with a wire brush. Then oil and wax.

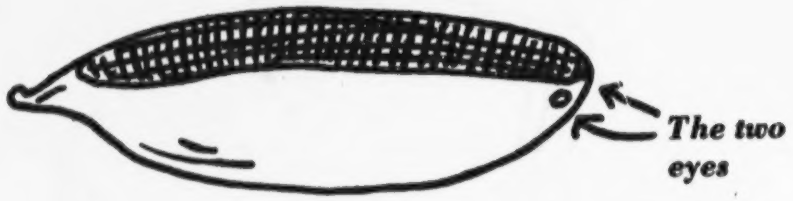
INSIDE THE BOWL

It is not necessary to sandpaper off the skin inside the bowl. However, if the bowl is to be polished on the inside, use the **mouth side** of the coconut shell for a lengthwise bowl in order to avoid the cavities that extend from the eyes down into the walls of the shell. Round bowls may be polished inside without any difficulty.

LENGTHWISE BOWLS

In cutting open a coconut of usual shape use the part with the two eyes for the bowl. Draw a line on the mouth side of the ridges and cut so as to leave the ridges for the top edge of the bowl. Leave the point on.

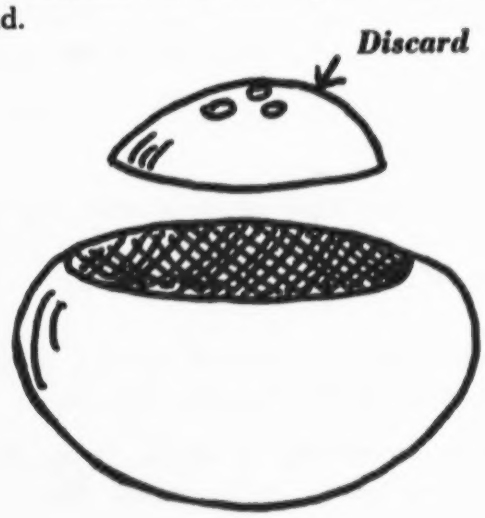




In sawing, hold the hack saw in normal position, cut down into the shell and saw from the middle of the coconut toward one's self. Turn the coconut around and saw from the middle to the other end. Repeat on the opposite side.

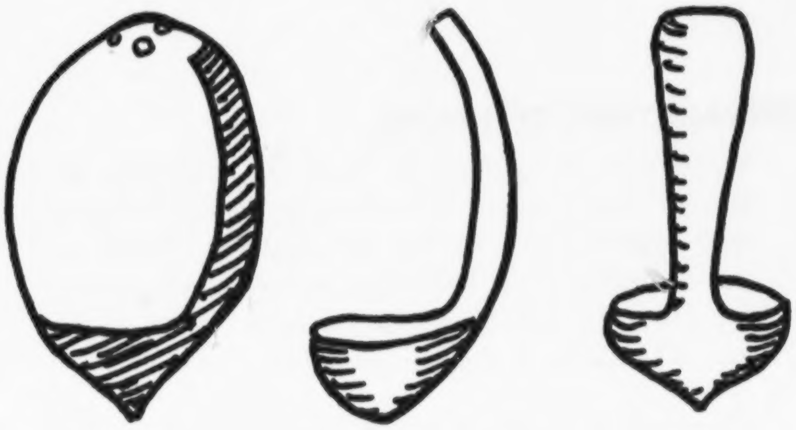
ROUND BOWLS

When using a round coconut, saw off the point and file the edge smooth. To draw a line to follow in cutting off the top, have a stack of books or magazines the height the bowl is to be. Slide a pencil in hand across the top of the stack and draw a line around the coconut while turning it slowly with the other hand.



COCONUT SPOONS

Attractive spoons can be cut from husked coconuts. The pointed end is used for the bowl of the spoon and the handle extends up toward the face end of the shell. The handle may be centered on the ridge between the eyes of the coconut or it can be elsewhere on the side of the shell. Handles can be cut wide or narrow with a flat or rounded end. The bowl of the spoon my be small or large.



Spoons

PROCEDURE

Round off the point of the coconut using the rough file first, then the second-cut and finally the smooth file.

Brush the fibers off the coconut with a wire brush.

Draw a line around the pointed end of the shell for the bowl of the spoon, then draw lines where the handle is to be.

First cut around the bowl of the spoon using the hack saw. Saw straight into the coconut, stopping only when you have reached the width of the handle. A "sawing board" as previously described is a great help in holding the coconut steady.

Saw down on side of the handle, cutting into the coconut and sawing toward one's self.

Saw down the other side of the handle.

Saw across the top of the handle.

Now remove the spoon from the coconut shell.

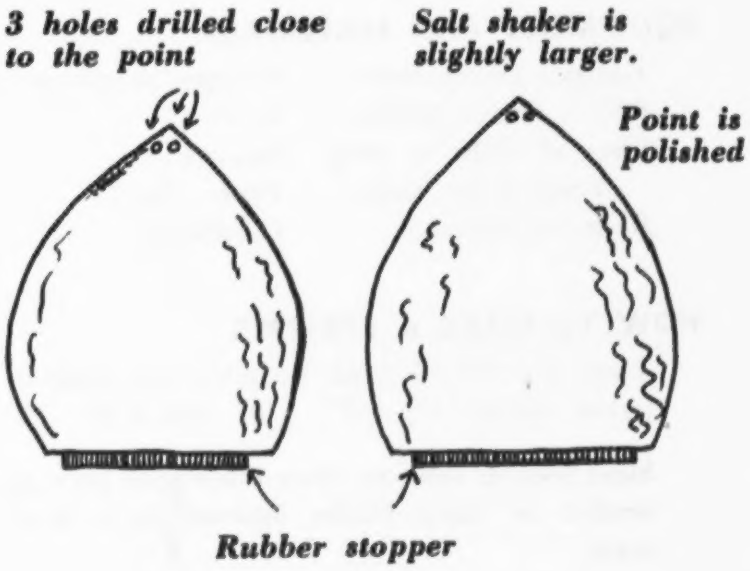
Dig the meat out of the spoon slowly and carefully with a table knife, removing small triangular pieces while working in the hollow of the spoon.

Steps in filing, sanding, oiling and waxing the spoon are the same as for bowls. Skip using the rough file if it does not seem necessary. The outside edge of the bowl of the spoon is left sharp instead of rounded, thus enabling food to be picked up more easily.

Spoons for many different uses can be made from coconuts in a number of different sizes and shapes. Extra large coconuts can be used for making gravy ladles and serving spoons while salt or mustard spoons can be made from very small ones. Spoons of average size can be used for mayonnaise, jelly, jelly, jam, chutney and salted nuts.

SALT AND PEPPER SHAKERS

Very attractive salt and pepper shakers can be made from small, pointed coconuts. The face end of the shell is sawed off and the coconut meat is removed. Rubber or cork stoppers are cut to fit the bottoms of the shakers. Proceed with the finishing as in making a bowl. Holes are drilled into the pointed end of the shell before the sandpapering is done.

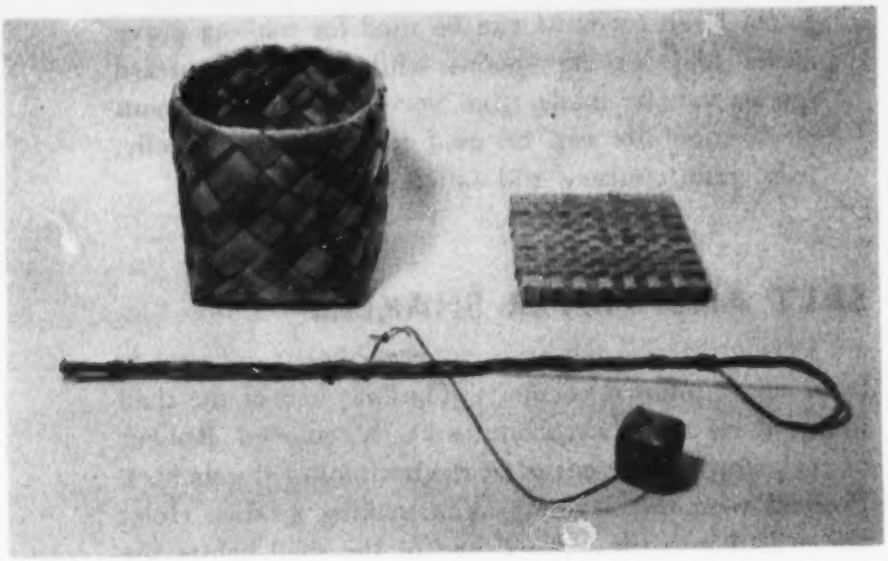


3 holes drilled close to the point
Salt shaker is slightly larger.
Point is polished
Rubber stopper

LAUHALA CRAFT

Lauhala products are made from the leaves of the hala or pandanus tree. These leaves are used to weave mats, hats, handbags, coasters, slippers, baskets, screens and wall coverings. The leaves are very durable and vary in size from three to five feet in length.

The weaving of lauhala is a primitive art done by many islanders in the Pacific. The Hawaiians from earliest times have produced excellent lauhala weaving. Besides the mat and basket, a very fine and soft cover for beds was woven called a kihei. They also wove pillowcovers and stuffed them with very fine strips of lauhala.



Basket—Age 16, Hot Plate—Age 12, Palaie Game—Age 8

EQUIPMENT AND MATERIALS

- Lauhala leaves, dried
- Gloves, heavy garden
- Piece of cloth to wrap ready-to-use strips
- Roller if available
- Stripper or cutter
- Knife
- Scissors
- Paper clips
- Cardboard

HOW TO MAKE A STRIPPER

There are several types. Strippers are made in different widths, 1", 1/2", 3/8" and 1/4".

Most popular ones are those made with phonograph needles or razor blades inserted in a block of wood.

To make one, procure a wooden block. Shape one end to form a handle. Measure broad end of block, mark off desired width for strips needed. Bore holes and insert needles or cut slots and insert razor blades. Glue if necessary.

PREPARATION OF LEAVES

Meticulous care must be taken in preparing the leaves for weaving. The loveliness of the finished product depends on flexibility and pliability. There are two varieties of the hala tree, one is spineless while the other has sharp spines on both edges of the leaf. The latter is the one used for weaving.

There are two sides of a leaf, right and wrong. The right side has a smooth finish with a sheen to it. This side is kept uppermost in weaving. The wrong side or back of the leaf has a dull finish and defined ridges running from base to tip. This side is always kept on the bottom in weaving.

Select long wide leaves and cut from tree.

Cut off thick base, pointed ends and spines on midrib and edges.

Roll leaves lengthwise to prevent wrinkling and dry in the sun.

If rolling must be done later, do not remove the spines or the edges will turn in, making stripping difficult.

When dry, rip leaf on both sides of midrib. The midrib is usually discarded because it is brittle.

Clean leaves with damp cloth.

To soften leaves, run leaf blades through roller for preliminary softening. Next, strip blades to desired widths by inserting stripper at base of leaf and drawing it to the tip.

Soften strips on both sides until very flexible. To do this, hold strips in left hand between thumb and forefinger. With knife in right hand, strips are passed and repassed over the back of a knife. It is necessary to wear gloves during this process of softening.

If a roller is not available, do all softening of leaves with the knife.

Next select strips according to lengths, widths and color. Tie them separately for future use. Color means dark and light strips.

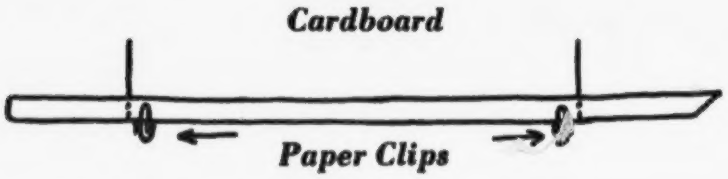
Uniformity in width of strips is absolutely essential to acquire the best result in the finished product.

CHECKER BOARD WEAVE

This is the easiest method for beginners. It is merely laying the strips crosswise and lengthwise and interweaving them. Much practice is required to acquire the rhythm of weaving so that it is uniform, firm and tight throughout.

PROCEDURE

Place one long strip of lauhala crosswise on the flat surface of a cardboard. The cardboard is used as a guide to keep the weaving straight and is cut the size desired for the woven piece. Clip this first crosswise piece of lauhala to the bottom of the cardboard with paper clips. Be sure that the smooth and shiny side of the lauhala is face up. This is the right side.

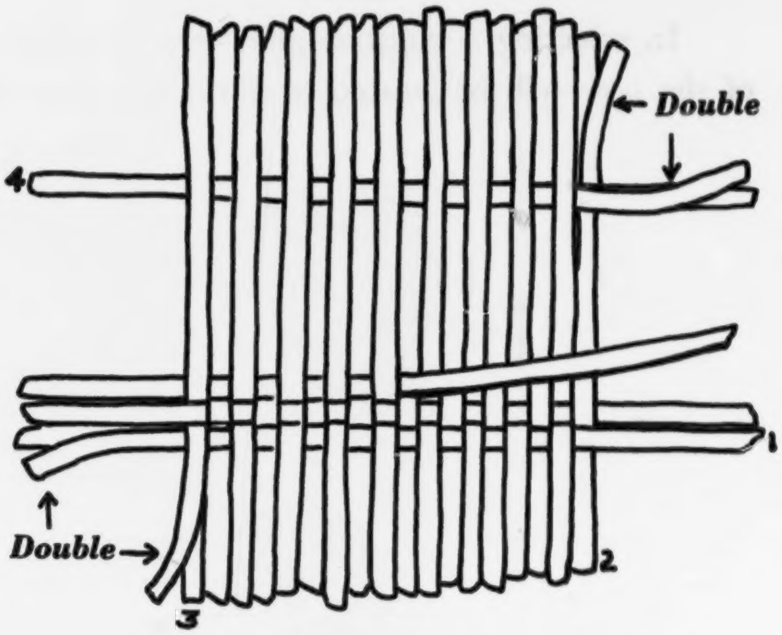


First crosswise strip clipped to cardboard

Next, lay long strips side by side lengthwise on the crosswise strips. Leave about 4 to 6 inches of lauhala protruding on all four sides of the cardboard. These are later woven back into the wrong side. Weave the lengthwise strips alternately under and over this first crosswise strip. For a double weave leave enough lauhala protruding to weave across the entire back of the woven piece. Weave either from right to left, or vice versa. Press alternate lengthwise strips forward towards the weaver and press the others (lengthwise strips also) backward or down away from the weaver.

This forms an opening for weaving in the crosswise strips in a rhythmic "under and over" until the other side is reached.

Now add another crosswise strip, weaving under and over the lengthwise strips. Pull the lauhala so the weaving is tight and firm. Continue this until the top of the cardboard is reached.

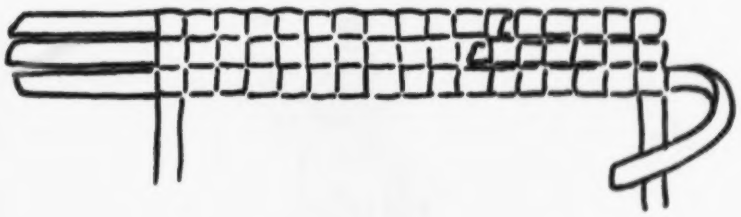


Front or right side

Turn the weaving over on the wrong side. Place an extra strip over each of the outside strips 1, 2, 3 and 4 with the smooth and shiny side up. Weave these under and over, making the edge double on all four sides.

Now turn protruding ends back and interweave toward the center of the woven piece on all four sides.

Back or wrong side

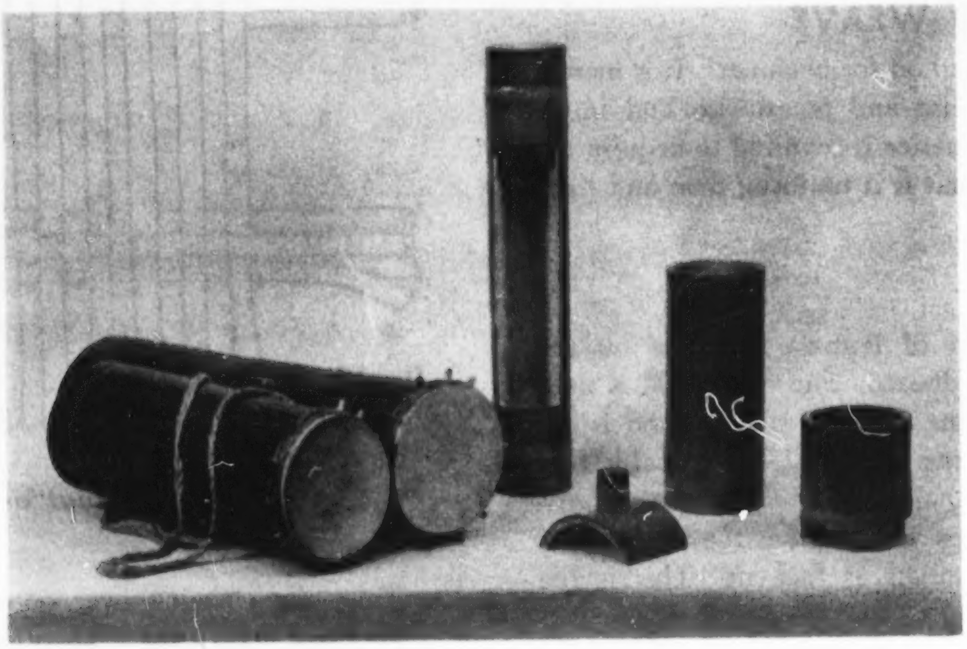


Protruding ends woven back on wrong side

BAMBOO CRAFT

Bamboo may be found in the forests of Hawaii. Many useful articles may be made from bamboo including jewelry, buttons, belts, candleholders, drums, flutes and wind chimes, a few of which are described in this section.

In selecting a bamboo pole keep in mind the size needed for the article to be made. A part of the pole will be wasted so select one with the greatest amount of bamboo of a usable size.

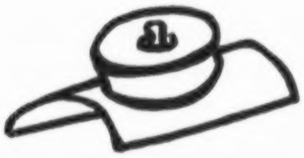


Double Drum, Vases and Candlesticks—Age 15

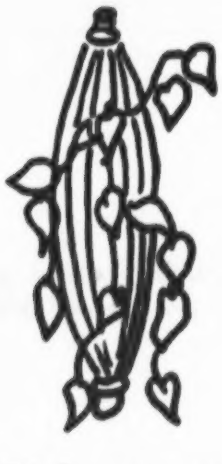
EQUIPMENT AND MATERIALS

- Bamboo
- Butcher or cane knife
- Steel wool
- Sandpaper
- Hack saw with fine blade
- Waterproof lacquer or varnish
- Brush for lacquer

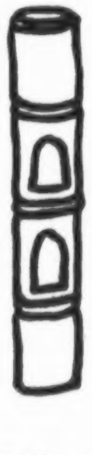
VASES



Bamboo holder for a dish



Bird cage vase



Wall vase

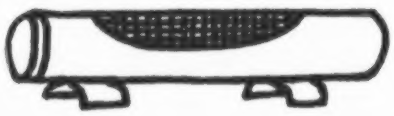


Table vase

BIRD CAGE BAMBOO VASE

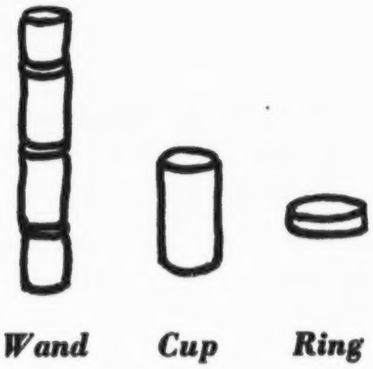
PROCEDURE

Select 2 pieces of bamboo, one wider in diameter than the other. Saw the bamboo into three pieces as follows:

Wand: 1 long piece from the narrower bamboo with joint about 3" from top

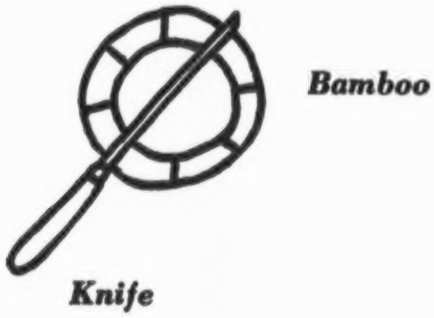
Cup: 1 piece from the wider bamboo

Ring: 1 piece from the wider bamboo for a ring to hold the loose ends together at the bottom

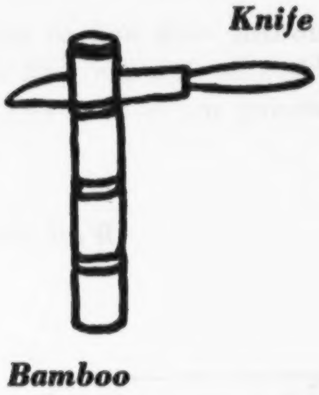


Take the wand, hold it upright with the 3" section on the table and mark the upper end into eight equal parts.

Holding the wand with your left hand, take the butcher or cane knife in your right hand and place it across two of the lines. Carefully hit the bottom of the wand against the table. It will spilt to the first joint.



Move the knife down to the first joint and twist the knife gently sidewise. This will split through the joint.



Hit the bottom against the table and the bamboo will split to the next joint. Continue cutting as directed, to the last joint. **DO NOT** split through the last joint.

In splitting into halves and quarters, make two splits at a time. To split the quarter into eights, make one spilt at a time. Sandpaper will split edges. If there are any splinters of bamboo, remove them with a pocket knife. Sand the cup and the ring. Cut off the ridges on the inside of the bamboo with a knife.

Finish the inside and bottom of the cup with waterproof varnish. Let it dry thoroughly. This is done to keep the bamboo from becoming mildewed. Spread the open ends of the wand with the left hand and holding the cup in the right hand, slide it into the wand, open end up. Place the cup in the center of the wand. Holding the eight loose ends together below the cup, slip the ring into place.

Hang on a nail, letting the head of the nail slide between two strips of the wand. Put water in the cup and insert a vine into the cup through the openings.

BAMBOO VASES FOR WALL OR TABLE

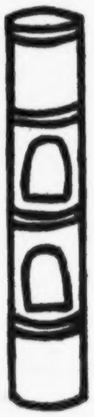
Select a piece of bamboo the length desired and at least 3" in diameter.

There should be at least three joints on the wall vase, two on the table vase. Plan to have the joints well placed.

TO MAKE THE OPENINGS

Mark the openings of the desired length and width with a ruler and pencil. Saw the openings across the bamboo, then saw the long way.

Saw towards each end to make a curved opening on the table vase. On the wall vase saw only towards the top, leaving the bottom straight.



Wall vase

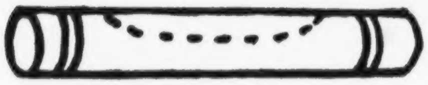


Table vase

TO FINISH THE BASE

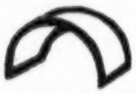
Sand all edges. Sand the surface of the bamboo if desired.

Finish the inside and edges of the openings with waterproof lacquer or varnish. This helps to prevent the bamboo from becoming mildewed.

Cut a small hole in the top of the wall vase so it can be hung over a hook. Put legs on the table vase.

LEGS FOR THE TABLE-TYPE VASE

Cut a ring of bamboo for the legs of the same diameter as that used for the vase. Split this in half lengthwise for the legs, making two half-circles.



Leg

Fasten the half-circle for leg under each end of vase. Place a screw with the screw head inside the vase and the nut on the underside of the leg.

Tin cans may be used inside the openings of the wall vase to hold dirt. Vines are more suitable in this type than are flowers.

Vines or flowers are suitable for the table vase. To hold them in place:

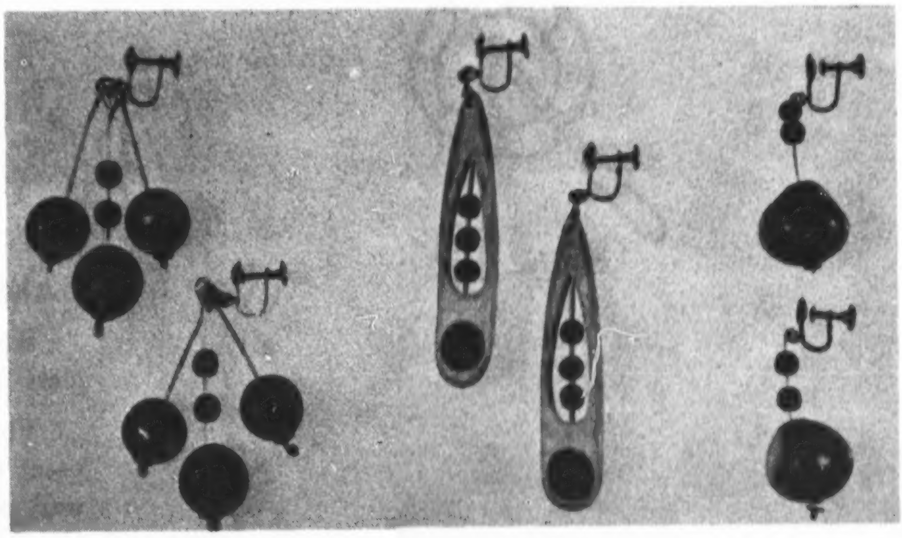
Cut a piece of wire screen or poultry netting with 1/2" mesh, 1" longer and 1" wider than the opening.

Roll the screen the long way and slip the roll inside the bamboo. It will unroll and fill the space.

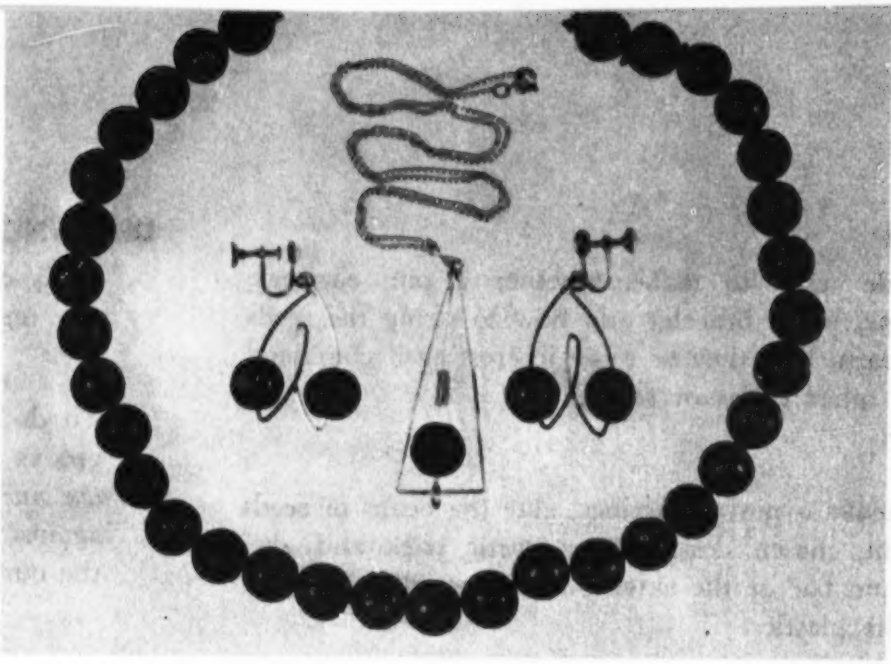
SEED JEWELRY OF OLD HAWAII

Some of the native beans, nuts and seeds in Hawaii make interesting jewelry, much more suited than modern costume jewelry to wear with Hawaiian costumes. Jewelry made from these was worn by the Hawaiians since days of long ago.

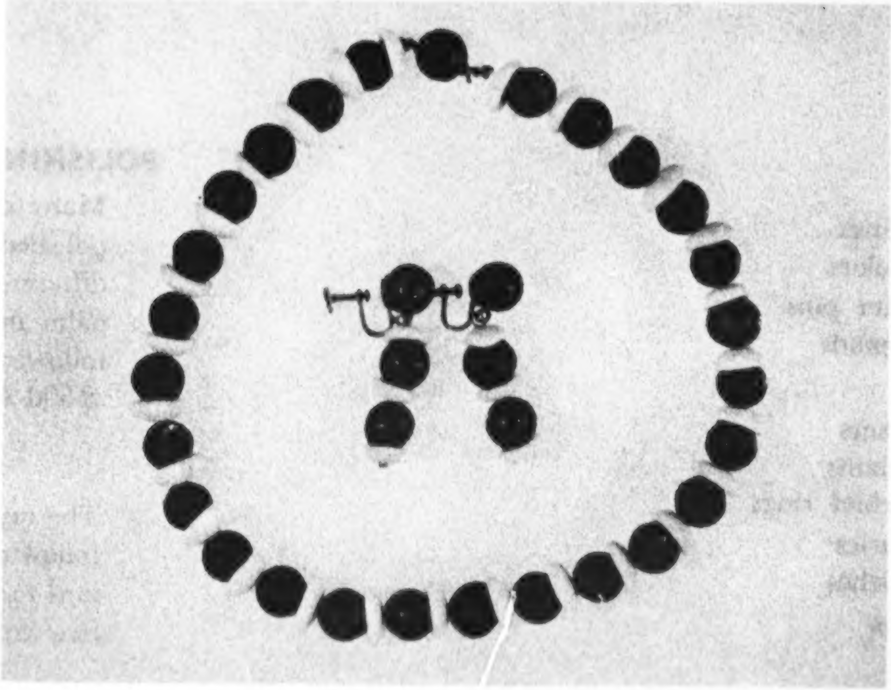
Combining Seeds and Silver, Seeds and Wood

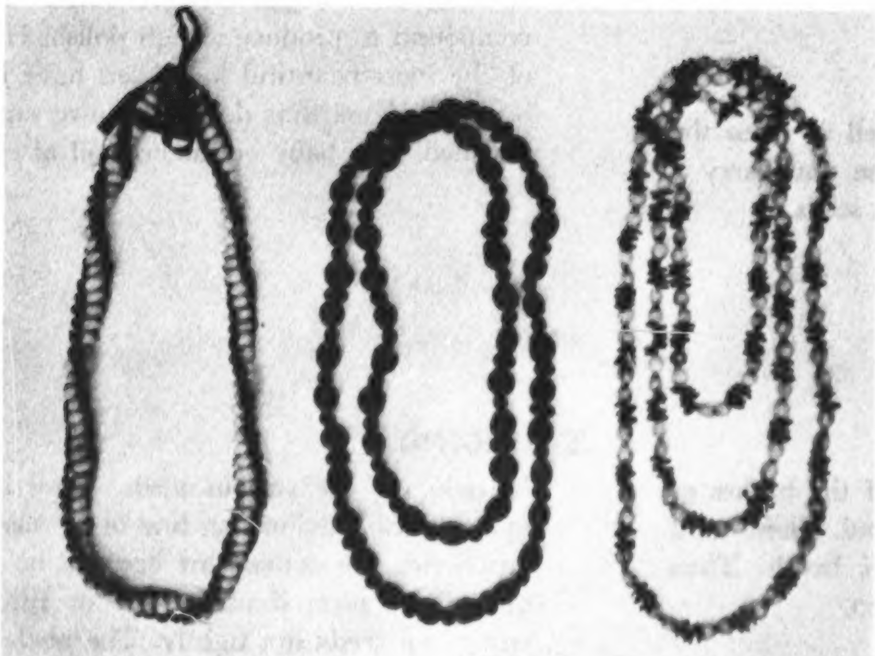


Combining Seeds and Silver



Combining Seeds and Shells





Seed Leis

DESIGN

Decide what to make, whether a pin, earrings, choker, lei or bracelet and how to string the seeds or beans. Will they be more interesting if combined with other beans or seeds?

To make a pin or earrings, glue the beans or seeds in the chosen design to a plastic back and glue the pin bar or the earring screws to the other side of the plastic.

USES

Earrings
Bracelets
Scatter pins
Hatbands
Leis
Chokers
Pendants
Kerchief rings
Rosaries
Brooches
Rings

COLLECTING

Collect seeds from the ground as well as from the tree. If the "seed bug" bites, be wise and carry a small paper sack in which to put the seeds.

CLEANING

Many of the seeds and nuts drop off the bushes or trees and become buried in the ground. These need washing and scrubbing with a stiff brush. Then lay them out to dry, one layer deep.

Other seeds may still be in the pod when they are gathered. These must be shelled.

DRILLING

Many of the nuts and seeds that are most satisfactory for jewelry are very hard and must be drilled.

To do this, put seed or nut in a vise or make a groove to hold it and use a hand drill. If available, use an electric drill with a small bit and push nut against drill. Be careful to drill straight through the nut or seed so it will hang straight.

POLISHING

Many nuts and seeds are more attractive if they are polished to a high luster. This may be done in many different ways. Kukui nuts, sheep's eye and all palm nuts must be sanded, using sandpaper #1/2 followed by "wet-or-dry" sandpaper #220, #400, #500 and #600.

The next step is to oil or wax them, using one of the following materials: kukui nut meat used by Hawaiians to polish kukui nut leis; boiled linseed oil, about five coats or paste wax.

If available, use an electric buffer with polishing compound to produce a high polish. However, some of the most beautiful kukui leis have been polished by hand. Nuts that do not require sanding may be polished with baby or mineral oil after stringing.

STRINGING

In stringing the various seeds, beans and nuts, use nylon thread, nylon fish line or jewelers' wire. The latter two are convenient because no needle is required. Be sure, if using wire or fish line, not to string the seeds too tightly. The seeds should hang straight. For leis tie a double knot to fasten the thread and work the ends back through three beads in each direction to fasten the ends.

In making chokers, make a loop in the thread at each end. Fasten a fine cord or grossgrain ribbon 1/4" wide, matching the seeds in color through the loops and use these two ends to tie the choker. It is also possible to use a regular bead clasp, but this is not as much in keeping with the native seeds.

When stringing the beans or seeds, graduate the size if desired with the largest one in the center front and the smallest ones at the back. If the seeds have a definite shape, plan to string them all from the same end. Continue this for the full length of the chain or reverse the direction after reaching the center.

DRYING OUT AND STORING

Any seed or nut lei should be kept where it is exposed to the air so the meat will gradually dry out, making it lighter in weight. Do not put away in a box or drawer. Hang them in a closet. If necessary to pack away later on, wrap in tissue paper.

EQUIPMENT AND MATERIALS

Clean cloth for buffing

Jackknife or small knife

Hand drill and small bit

Ribbons for leis

Files, half-round and second-cut, 8 to 10 inches long

File, extra slim tapered triangular, 6 to 8 inches long

Coping saw Vise Necklace clasps

Plastic backs and findings for brooches, pins and earrings Chains for pendants

Sandpaper #1/2, #220, #400, #500, #600

Flint paper #1/2

Nylon thread, #8 or #10 heavy thread or jewelers' wire

KUKUI NUT FROM KUKUI OR CANDLENUT TREE

(Aleurites moluccane)

PROCEDURE FOR A PENDANT

Select a well-shaped kukui nut.

Remove the grayish covering with the second-cut file.

For a plain surface file off the ridges.

To preserve the ridges, use the triangular file. The point at the bottom of the seed and hole at the top will serve as a center guide.

Sand the nut, using #1/2 sandpaper, then the four grades of "wet-or-dry" sandpaper, #220 to #600.

Use the meat of another kukui nut to polish or apply linseed oil to it.

Wipe off with a dry cotton cloth and repeat five times. Wax two or three times.

Screw pendant holder into hole in top of nut, then string ribbon or chain through it.

PROCEDURE FOR A KERCHIEF RING

Choose a kukui nut.

Place nut in vise.

Using coping saw, cut out two pieces on the back, leaving a 1/4" wide ring to connect with the front.

Remove nutmeat.

Finish the same way as described for the pendant.

PROCEDURE FOR A LEI OR CHOKER

Sort the kukui nuts so they will be nicely matched in size and shape or alternate large and small.

Decide how many are needed for the necklace.

Drill holes through length of seed, starting with hole in top of nut.

See directions for drilling.

Follow steps for making a kukui nut pendant, above, to finish the nuts.

Kukui nuts may be buried in the ground to let the ants eat out the nutmeat. However, it is perfectly all right to string them right away and wear them. In time the nut dries out and the beads become much lighter in weight.

String the nuts on nylon thread, fish line, jewelers' wire or ribbon.

MONKEY NUT FROM MONKEY NUT OR QUEEN PALM, OR FEATHERY COCONUT PALM (Arecastrum romanzoffianum)

PROCEDURE FOR A LEI, PIN OR KERCHIEF RING

Decide on article to be made and select nuts for that purpose.

Scrape off fibrous covering of nut with knife.

Sort nuts for size.

For a lei or choker holes must be drilled for stringing.

For kerchief or finger ring use coping saw to cut out two pieces on back, leaving a 1/4" band across center of back to connect with front.

For a pin cut seed in half and glue to pin back. Earrings can be made in this way, using smaller nuts.

Sand any of these articles, using #1/2 sandpaper and continuing through #600 sandpaper.

Polish as for kukui nuts.

KOA SEEDS FROM THE KOA HAOLE (Leucaena glauca)

These small, glossy, flat, brown seeds make beautiful leis and chokers and are available near at hand on all the islands. They must be carefully sorted for size, and consideration should be given to the curve of the seeds so that they are strung with the more curving side out.

EQUIPMENT AND MATERIALS

Koa seeds

No. 8 or 10 thread, black or brown, heavy duty

Beeswax

Oil: vegetable, olive or mineral

Long slender needles

Container for boiling seeds

PREPARATION OF SEEDS

Add 1 teaspoon oil to 1 pint of water. Boil seeds approximately 5 to 10 minutes, until needle goes through the seed easily. Drain, pat dry and place in covered jars. They should be kept in the refrigerator when not working with them so they will not dry out.

Wax the thread, using a single strand. String seeds to make leis or chokers. Koa seeds may be combined with the gray Job's Tears or the red Wiliwili.

OTHER BEANS, NUTS, SEEDS AND PODS

Do not stop with kukui and monkey nuts. Make discoveries while traveling around. This jewelry has a great appeal to people who live here as well as to friends on other shores.

JACARANDA (Jacaranda ovalifolia). Select five small pods, sand and wax. Drill two holes 1/2" apart near the top and string a leather thong through them to make a necklace. The center one might be a little larger than the others.

MAKILA PALM (Adonidia merrillii). This is a very pretty seed, tan veined with white, and when polished, it looks almost like stone. It must be drilled.

KAKALAIOA (Caesalpinia crista). This is one of the most interesting seeds, rounded and often flat on one side. It is very dull gray when gathered, but takes a beautiful sheen and may be strung with Wild Canna seeds or false Wiliwili. These seeds are sometimes called Gray Nickers or Hawaiian Pearls.

ROYAL POINCIANA (Delonix regia). This two-toned seed, mottled gray and black, is quite interesting when combined with Wild Canna seeds. It must be drilled.

FALSE WILIWILI, or Red Sandalwood Tree **(Adenanthera pavonina).** This is the gayest seed of any. It looks like a round red pill and keeps its color very well. Use alone for leis, chokers or bracelets or combine with Job's Tears, Kakalaioa or Wild Canna seeds. It must be drilled.

TRUE WILIWILI (Erythrina sandwicensis). This red seed, very must the same color as the false Wiliwili, is oval and three-sided in shape. It is nice for pins and earrings as the flat side sticks to the plastic pin or earring back better than most of the round seeds.

WILIWILI HAOLE, or Tiger's Claw, or Indian Coral Tree (Erythrina variegeta). This is a maroon-colored seed, larger than true Wiliwili.

SHOWER TREES. The seeds from these trees are somewhat larger and lighter in color than the Koa Haole, but similar in shape. The three species of shower trees are the pink (**Cassia grandis**), the golden (**Cassia fistula**) and the pink and white (**Cassia javanica**).

OPIUMA (Pithecellobium dulce). These seeds are flat, black and irregular in outline and surface. They need not be drilled. If boiled, allow for shrinkage after drying.

SOAPBERRY, or Manele, or A'E (Sapindus saponariu). This seed is round and black. It is found in an orange-colored fruit. As the fruit matures, it shrivels and turns brown.

WILD CANNA (Canna indica). These small, black seeds look well when used to separate larger seeds. These must be drilled.

MAUNALOA (Canavalia microcarpa). This is an oval, brown seed good for leis, chokers and earrings.

SEA BEAN, or Kaeee (Mucuna gigantea). There are two types: one a marbleized or mottled tan and black; the other plain in color, ranging from tan through rust color to brown.

SHEEP'S EYE (Mucuna urens). This is a large, gray seed with black band used for leis.

CASTOR BEAN (Ricinus communis). This bean is a small, glossy mottled gray and black. It combines nicely with plain black or red beans or seeds.

BALLOON VINE, or Heart Seed, or Poniu, or Eoule (Cardiospermum calicacabum). This tiny, black seed has a white heart on the side.

BEAD VINE, or Prayer Vine, or Black-eyed Susan (Arbus precatorius). Poisonous. This is a very pretty, small red seed with black eye.

MONKEYPOD, or Ohai (Samanea saman). These rather small seeds are not as satisfactory or interesting as some of the others.

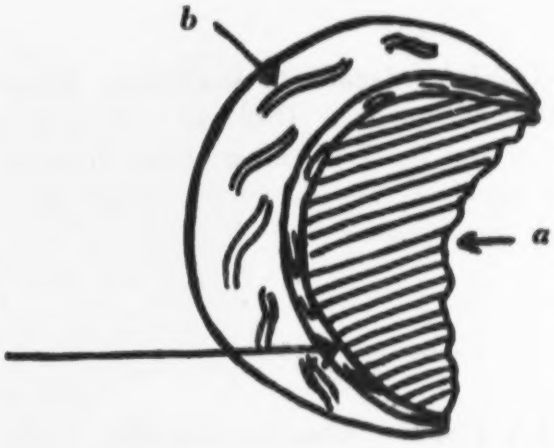
JOB'S TEARS (Coix lacryma-jobi). This seed grows in marshy places and has a distinct advantage over most of the other seeds because nature has provided a hole straight through the center. Just pick and string them. They have quite a nice luster so need very little polishing. Try stringing three or four strands, then twisting them for a choker.

PODS FROM THE SAND BOX
(Hura crepitans)

This is a crescent-shaped pod and looks like sandalwood. The seeds which fall out are poisonous. **Be sure to discard them.** The pods are good for pins and may be drilled at one end and strung for a necklace. The small ones may be used for earrings.

FINISHING THE POD

Cut away excess part of the pod with a pocket knife, marked *a*. Smooth the cut edge with a curved file. Caution: **Do not** file beyond thick "outline" edge.



Sand the edge, top surface and underneath with sandpaper until all wrinkles, marked *b*, and rough spots have been removed. Start with coarse sandpaper, finish with very fine. The underneath side requires very little sanding.

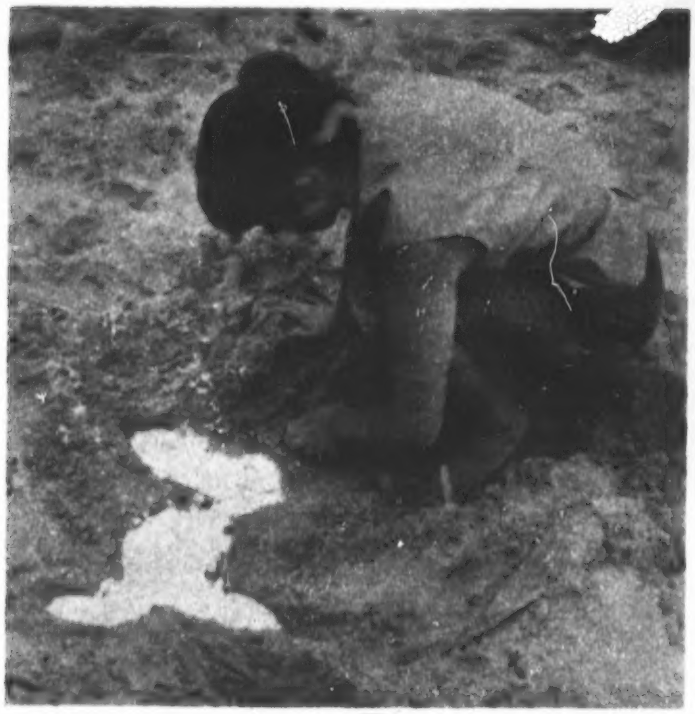
Clean and wax the pod. Buff the surface until it has a sheen and glue a pin back to the underneath side.

Several sand box pods, either the same or of different sizes make attractive scatter pins.

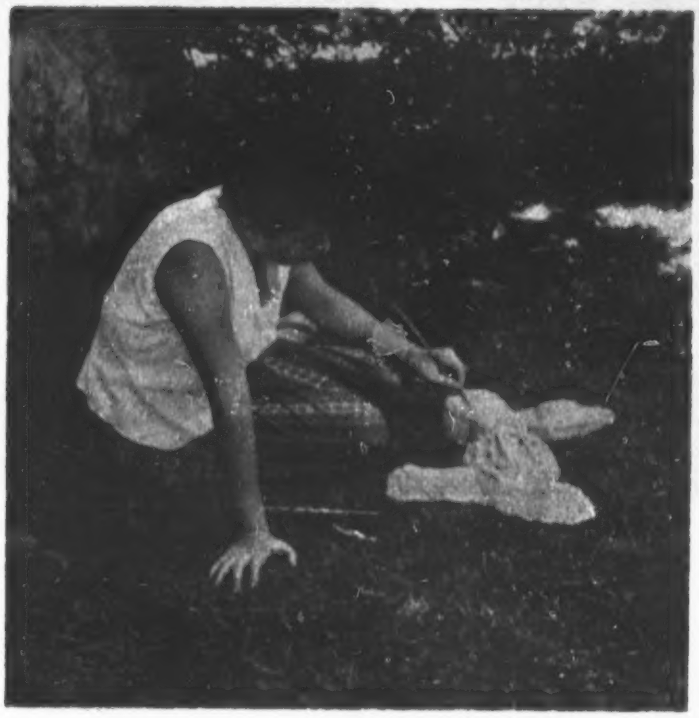
To make a necklace or earrings, drill a hole through one end of the sand box pod and string on No. 8 thread, cream color or string on a commercial necklace chain. Use the drop type earring backs to make earrings.

SAND SCULPTURE

Sand is used for a mold in sand sculpture. The resulting sculpture will be bas-relief. It can be done at the beach or in a box.



Plaster Poured—Age 16



Brushing off Sand—Age 16

VALUES

Sand sculpture:

- Has a primitive or naive quality.
- Is a simple and speedy way of casting.
- Introduces an interesting texture.
- Is a new kind of experience.

EQUIPMENT AND MATERIALS

Sand
Plaster of Paris
Bucket
Tongue depressors
Water
Spoons

String
Cloth
Wire
Seeds
Shells
Pebbles

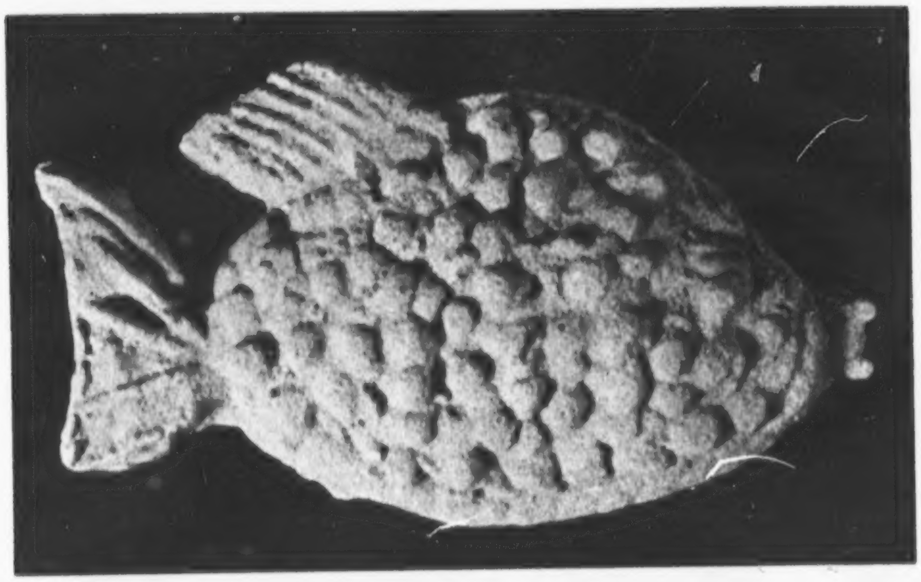
Large pan, wooden or strong cardboard box about 6" to 10" deep

String, cloth or wire scraps

Substitutes:
  For sand: soft, moist soil
  For plaster: three parts sand to one of Portland cement with water
  Dry for about 20 hours.

PROCEDURE

Ideas should be simple forms.



Bas-relief Sand Sculpture — Age 17

At the beach use the flat wet strip next to the water. The sand must be wet to hold its shape and the place must be flat so one side of the mold will not be higher than the other side. Build a wall of sand around it, so a wave cannot wash the mold away.

Any strong box may be used if deep enough and without cracks so it will hold the sand.

The sculpture should not be too small, not less than 12", not more than 24". If too small, there will be no details. If too big, it may break and is hard to handle.

Decide on an idea, maybe a mask. Scoop out the sand in a concave depression that is the **back** of the mask. With a finger press in the sand for eyes, eyebrows, nose and mouth. Other lines may be made for decoration as in painting a fantastic and unusual mask. Shells, pebbles, coral or marbles or other objects may be pressed in the sand for eyes or other decorations, keeping the side of object down in the sand which will show on front of the plaster of Paris mask when lifted from sand mold.

MIXING AND POURING PLASTER

Sprinkle plaster through fingers into water in bucket at center until it stays in a cone about 1½" high above the water. Do not stir while sifting plaster into water. When cone is wet through, stir gently with hand from bottom up until of batter consistency. **Do not add water** after mixing process has begun.

With hand, gently pour plaster into depressions of eyes and other small depressions so as not to distrub sand. Then gently and slowly pour plaster into the mold until it is on a level with the sand in the box. Press a loop of wire at top of mask if it is to be hung on a wall. Also press some string, cloth or wire into plaster to strengthen the plaster.

Plaster may be colored with powdered cement color or tempera. However, the natural color of the sand that adheres to the plaster reduces the white of the plaster so the sculpture resembles stone.

Let the plaster harden about thirty minutes. Lift plaster sculpture from sand mold and **brush** off excess sand. **Do not wash it off.** Plaster hardens as it dries and reaches maximum hardness in two to three weeks.

SCULPTURE—CARVING

Sculpture is the direct carving or cutting away of pieces from a solid three-dimensional form to a preconceived idea. The properties of the material should be such that the sculpture may be carved by human hands alone. Sculpture also includes bas-(low) relief and high relief. Modeling, in contrast, builds up a form by adding pliable clay.

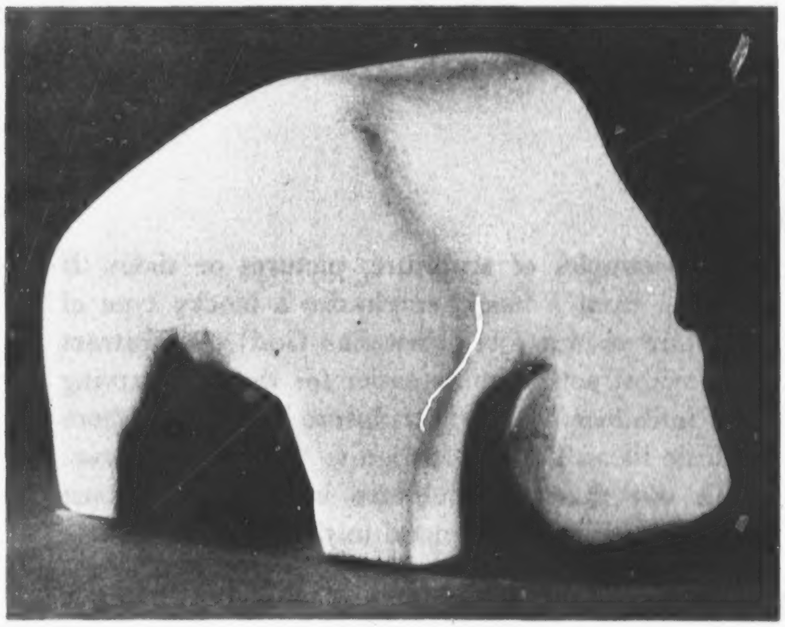
Our heritage of sculpture has come to us throughout the centuries from every civilization and culture including the most primitive, some of which still exist. It is one of the main links or records between the past and present civilizations. Carving and modeling were natural and commonplace forms of expression depicting everyday life including religion.

VALUES

Sculpture:

- Develops the concept of three-dimensional mass (form) occupying space.
- Develops appreciation of sculpture through carving experience.
- Develops aesthetic satisfaction in one of the oldest art forms.
- Provides opportunity to explore resist characteristics of materials for carving.
- Develops careful planning.

Plaster of Paris—Age 13



Bas-relief Plaster—Age 11

DESIGN

The sculptor should work for simplicity and direct expression with respect for the characteristics of the material. Texture, softness or hardness, the grain of wood, qualities and properties of metal and stone should be honestly used for their intrinsic qualities. One material should not be made to simulate the properties or appearance of another. The beauty of the material should be displayed with a minimum of decoration.

The design or composition of a piece of sculpture is the harmonizing of the structural planes, masses and line into a unified whole. Sculpture in the round should be pleasing from all sides including shadows as well as light planes. The design may be realistic or abstract. Exaggerate or simplify, and adapt a subject for sculpture because the exact imitation of a subject prevents imagination.

SUGGESTIONS

Clay modeling should have been experienced at some time before attempting to experience sculpture in other media.

Show examples or pictures of sculpture from ancient to modern times.

Sketches may be made and drawing from life is recommended. It is necessary to visualize the form in three dimensions and keep it in mind until the carving is finished.

There must be careful planning and carving. In direct carving mistakes will change the original plan. Slight mistakes may be corrected.

Practice using tools and carving on a scrap piece when using stone.

EASY-TO-CARVE MATERIALS FOR SCULPTURE

The carving of leather-hard clay, firebrick, plaster of Paris, plaster and dirt mixture or coral is easy as these materials are firm, but not hard.

DESIGN

Show examples of sculpture, pictures or slides. If working from a block, emphasize a blocky type of sculpture as in a Tiki (Hawaiian God). An abstract or semiabstract design is easier for the first carving and introduces modern sculpture. Later try more realistic ideas. Draw attention to light and shadows. Point out that the sculpture in the round must encourage us to look around to the other sides.

EQUIPMENT AND MATERIALS

Pocket knives, paring, X-acto, single-edged razor blades or Boy Scout jack-knives

Hack-saw blades, files and rasps for all materials except clay

Combination carborundum stone for sharpening knives

Sandpaper and steel wool, plaster of Paris

Sponges

LEATHER-HARD CLAY

Form a block of clay and let it dry until firm. For interesting texture grog or sand may be added to clay in the plastic stage and then wedged to remove air bubbles. Keep a damp cloth over it until ready to use to keep it the same consistency of dampness throughout. Scratch a rough sketch on the four sides of the block and rough out the parts not wanted with a knife. The surface may be textured by scratching or may be smoothed with a damp sponge. Hollow out a hole in the bottom as in other clay sculpture so the piece will dry evenly and will not shatter in the kiln. Fire with or without glazing. Refer to section on Ceramics.

CORAL

Conceive an idea in mind and then proceed to carve directly into the coral with a knife or chisel. Sanding is optional. Use solid coral, not the kind with many sections.

FIREBRICK

Carve this material carefully as it breaks easily. It is so soft that even young children may carve it. Draw design with soft pencil on all four sides. Rough out parts not wanted with a hack-saw blade. Carve with a knife. Surfaces may also be reduced with sandpaper, files and rasps. Firebrick may be glazed and fired. An antique finish may be achieved by glazing and then sponging it off, leaving glaze only in the natural holes of the firebrick. Firebrick looks better glazed with only one color and usually a dark color.

PLASTER OF PARIS

Refer to Mixing of Plaster under Sand Sculpture.

Mix plaster and pour into milk cartons with tops cut off or into other cardboard boxes lined with a layer of liquid soap or vaseline. Tap or shake cartons a little to remove air bubbles. When hard and thoroughly dry after several hours, pull off cardboard. If plaster is too hard for carving, hold it under running water to soften the surface or soak in vinegar water. Draw design on four sides and carve with knife. When finished, it may be sanded or left with texture.

PLASTER AND DIRT MIXTURE

This mixture is softer than plaster and slow drying. It is interesting to try the red volcanic soil of Hawaii or the darker grey. Maybe black sand could be added for grog and texture.

Sift dry dirt through wire screen, add an equal amount of dry plaster, **mixing thoroughly.** Then add water until it is the consistency of thick heavy cream. Some types of soil need more water than others. It is best to experiment with a small amount first. Pour into cartons. See directions above for plaster of Paris.

When set, after about 24 hours, remove cardboard. Further drying may take a week in humid weather.

Draw design on four sides, carve with a knife and sponge lightly with water occasionally to keep down dust. Polish with steel wool for a finish.

Plaster 2 parts, sand 1 part and zonolite 4 parts looks like stone, but is lightweight. Mix with water to a thick paste and pour immediately into carton or box. Allow to set for about 12 hours, then remove cardboard. Draw design on four sides and carve with knife.

Sand 1/2 part, zonolite or vermiculite 1 part, water 1 part and add enough plaster of Paris to make a very thick cream. Proceed as for the other mixtures.

Coral—Age 10

From left to right: Plaster—Age 17; Sand and Plaster—Age 13; Coral—Age 16

WOOD SCULPTURE

Native Hawaiian woods are excellent for wood sculpture. Keep forms simple and let the grain and the shape of the wood determine the overall design.

KINDS OF WOOD

Softer woods: balsa, hau, basswood, Philippine mahogany

Hard woods: monkeypod, koa, milo, driftwood

EQUIPMENT AND TOOLS

Woodcarving tools: skew chisels, veiners and gouges

Files and rasps

Mallets, wood

Combination oil stone

Electric saw if possible

Saws

Vises

Emery wheel

Arkansas stones

Workbench

PROCEDURE

Draw rough sketch on all sides of wood.

Start carving from the top and work downwards.

Work on the whole piece continuously rather than finishing each part separately.

Cut and gouge out deeper gouges for a rough establishment of the main structural planes. Carve across the grain of the wood.

Finish with the more shallow gouges with the grain of the wood.

Sanding will depend on effect desired.

Wood—Age 12

STONE SCULPTURE

Some of the volcanic rock formations in Hawaii are very interesting and need very little carving. Sometimes they can be found on the beaches.

KINDS OF STONE

Soft: soapstone and limestone

Medium hard: some of the volcanic rock in Hawaii

Hard: granite, marble, certain volcanic rock in Hawaii

EQUIPMENT AND MATERIALS

Stone or scrap pieces from a stone company

Sculpture hammer, 2 or 3 lbs., with iron head and short handle for hard stone

Bush hammer with a pounding surface of many sharp cutting teeth for a rough texture

Chisels, point and tooth

Rasps and files

Stone and mineral abrasives for finishing: rubbing stones, sandpaper, emery cloth, tin oxide

Inexpensive plastic glasses to protect eyes

Stand, weighted, on which to work. An oil drum filled with sand is good for out of doors.

Water to cool tools when sharpening

Emery wheel and carborundum stones

PROCEDURE

Light is necessary. Work out of doors or on a lanai.

Rough out parts not wanted with a wedge or chisel point, using hammer to drive it into the stone. One hand provides the power, the other hand guides the chisel.

The pointed chisels will be used to do most of the blocking out. Begin with the heavy point. Continue with the light point and the tooth chisel.

Use the rasp or file for finishing.

RESOURCES

The Code used for books is as follows:

- *** — Recommended for school libraries**
- **# — Listed previously in Resources**
- **L.H. — Library of Hawaii, Music and Art Room**
- **A.A. — Honolulu Academy of Arts, Educational Department**
- **A.D. — Studio of the Art Director**

BOOKS

Upper Elementary and Secondary

*Aller, Doris. *Sunset Wood Carving Book.* Menlo Park, California: Lane Publishing Company, c1951. L.H., A.A., A.D.

#*Art for the High School. Growing with Art Series.* Syracuse, New York: The L. W. Singer Company, Inc., c1957. Pages 43-49. A.A., A.D.

Batten, Mark. *Stone Sculpture by Direct Carving.* New York: The Studio Crowell, Inc., c1957. L.H.

Silvercruys, Suzanne. *A Primer of Sculpture.* New York: G. P. Putnam's Sons, c1942. L.H.

#Struppeck, Jules. *The Creation of Sculpture.* New York: Henry Holt and Company, c1952. L.H., A.D.

Zaidenberg, Arthur. *Anyone Can Sculpt.* New York: Harper and Brothers, c1952. L.H.

METAL SCULPTURE

Sculpture, using sheet metal alone or with other materials, is a construction. It may be in the form of a mobile or a construction that thrusts up into space. The use of sheet metal dates from ancient cultures and today many artists are using it as a sculptural medium. It is now included in the art courses of some high schools while formerly metal was used only for bowls, boxes, paper knives and other articles, not as a sculptural medium. Due to the nature of the material which does not allow intricate details, it lends itself best to semiabstract or abstract forms.

VALUES

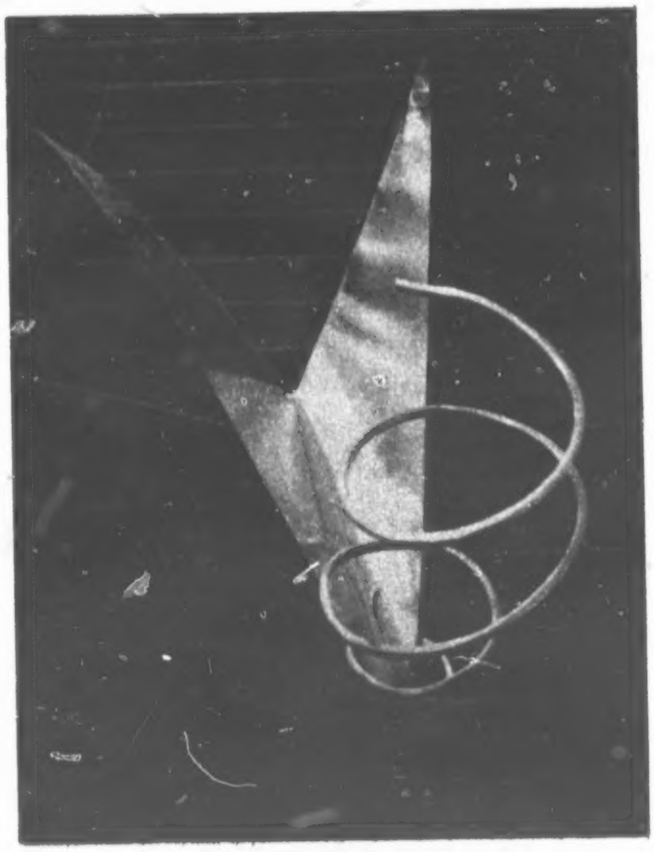
Metal sculpture:

- Introduces abstract sculpture.
- Develops appreciation for metals as sculptural media.

METALS FOR SCULPTURE

Aluminum and copper are malleable metals which may be purchased in sheets of various thicknesses and degrees of hardness. They may be softened by heating and hardened by hammering. Care must be taken when heating aluminum because of its low melting point. Copper pieces may be joined by soldering or rivets. Aluminum soldering is difficult to handle and rivets are more satisfactory for that metal and can be incorporated as part of the design. Lead also comes in sheets. It is very soft and care must be taken not to get it too thin in spots when hammering. These metals may be cut with metal shears, a hack saw or jigsaw and may be hammered with ball peen hammers.

These metals and wire may be used in combinations with each other and also with wood, brass, clay or plaster.



Copper Sculpture—Age 17

COPPER

Copper is widely used because of its malleability. It can be polished to a bright sheen or be colored by acid or heat. It may be soldered with soft solder or by brazing with silver or brass rods because of its high melting point.

EQUIPMENT AND MATERIAL

Sheet copper, gauge or thickness suitable for the design
Tin snips Files
Curved shears, left and right
Ball peen hammers, large and small
Anvil or hardwood block for metal dies
Lead block files
Steel wool and metal sandpapers
Solder Soldering iron

PROCEDURE

Shaping or hammering can be done on an anvil, lead block or wooden block. As you hammer metal, using a ball peen hammer, the metal will stretch and harden. The metal can be softened (annealed) for further working by applying heat to it until the metal is dull red, then dip in water.

By controlling the force of the blow, you can control the resulting shape. By the use of reverse curves, hammering from both sides, the soft pliable metal will gain tremendous structural strength.

Cleaning can be done by the use of files, steel wool and metal sandpaper or it may be dipped in sulphuric acid, five parts water to 1 part acid. **IMPORTANT: Add acid to water. Never add water to the acid.**

Copper may be colored green by painting it with soldering flux. It can be antiqued with acetic acid or a mixture of vinegar and water.

LEAD

Lead is a softer metal which is easily hammered. There is only slight hardening. Lead sheet could be worked on sand bags or a large sheet could be hung and worked from both sides.

Shaping the basic form is done by using tape on the wooden mallet. Some shaping can be done with the hands. Round out forms with shaping hammer or ball peen hammer. Details can be obtained by the use of a fiber mallet or rawhide mallet and punch. Shears can be used to trim excess material. Vinegar is used for cleaning and a solution of 1 part hydrochloric acid to 5 parts water for darkening.

WIRE

Wire is another material used for sculptural purposes. Refer also to section Adventure with Wire.

TOOLS FOR WIRE SCULPTURE

Pliers
Ball peen hammer
Side cutter
Anvil
File

Thick or thinness can be obtained by hammering wire where necessary to desired shape or twisted to give depth or three dimensions.

RESOURCES

The Code used for books is as follows:

*** — Recommended for school libraries**
# — Listed previously in Resources
L.H. — Library of Hawaii, Music and Art Room
A.A. — Honolulu Academy of Arts, Educational Department
A.D. — Studio of the Art Director

BOOKS

Secondary

#Lynch, John. *Metal Sculpture.* New York: Studio Crowell, Inc., c1957. L.H.

#Struppeck, Jules. *The Creation of Sculpture,* New York: Henry Holt and Company, c1952. A.D.

WOOD CARVING

The native woods of Hawaii are excellent for wood carving. Beautiful calabashes, platters and other utensils have been made by the Hawaiians since earliest times, carved and polished by hand.

WHITTLING

Whittling is used for small objects which can be held in the hand. Small figures may be carved from soft woods such as hau, poinciana, basswood, pine or redwood. Use pocket knives or sloyd knives. **Knives must be sharp.**

CHIP CARVING

Chip carving is an incised carving of geometric patterns on flat pieces of wood. The triangle may be used in many different arrangements for the design. Simple curved leaf design is also possible. Cuts may be made convex and concave to give an interesting pattern of light and shadow.

USES

Paper knives (letter openers)
Hawaiian tapa designs on a stick
Surface of boxes
Batons
Book ends
Picture frames
Book covers

EQUIPMENT AND MATERIALS

Use the softer woods without decided grain or knots such as poinciana, basswood, cedar, pine and redwood. Use the wood planed, but not sanded.

Monkeypod and koa are harder, but can be carved by students in grades 7-12.

X-acto knives, pocket knives or chipcarving knives
Curved chisels
Combination oil stone
Arkansas stones
Wood carving skew chisels for hard wood

PROCEDURE

Draw design on wood or transfer from paper to wood with carbon paper.

Cut one section with a single clean cut.
3 cuts for triangles.
2 cuts for curved design with a curved chisel.

Carve across and also with the grain of the wood.

Chip carving is not sanded.

Keep tools sharp.

CARVING TRAYS, BOWLS, CALABASHES, PLATES, PLATTERS, SALAD FORKS AND SPOONS

DESIGN

Keep design simple with little or no decoration. Emphasize importance of showing the beauty of the wood in grain and natural color.

Forms may be square, rectangular, oval, ovoid or free form. Inspiration may come from nature, but should be simplified and not an exact copy. Leaf designs with points are not suitable.

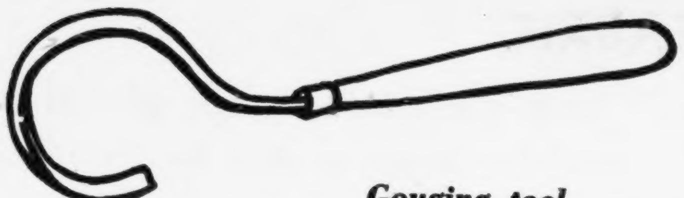
The more grain there is in the wood, the simpler the form must be.

EQUIPMENT AND MATERIALS

Wood: round, slab, block or free form
Poinciana
Monkeypod
Koa
Milo
Philippine mahogany

Sandpaper, fine and several sizes
Steel wool, fine
Brushes, flat, 1½" to 2" wide
Clear lacquer
Lacquer thinner
Shellac
Wood alcohol
Linseed oil, boiled

Wood carving tools: skew chisels, veiners and gouges
Saws
Files
Rasps
Mallets, wood
Workbench or strong table
Vises
Clamps
Combination oil stone
Arkansas stones
Emery wheel
Electric saws when possible



Gouging tool

A curved tool may be made from an old file by a machinist. Add a handle on the point end. Sharpen one side of blade. This is excellent for gouging out bowls. Sharpen side on the right.

Monkeypod Bowl—Age 17

PROCEDURE

Draw design on wood.

Cut outline shape with electric or hand saw.

Hollow out inside.
  Carve across the grain for roughing.
  Carve with the grain for finishing.

Turn it over and shape the other side.

Gouge cuts may be used for texture inside or outside and will not be sanded.

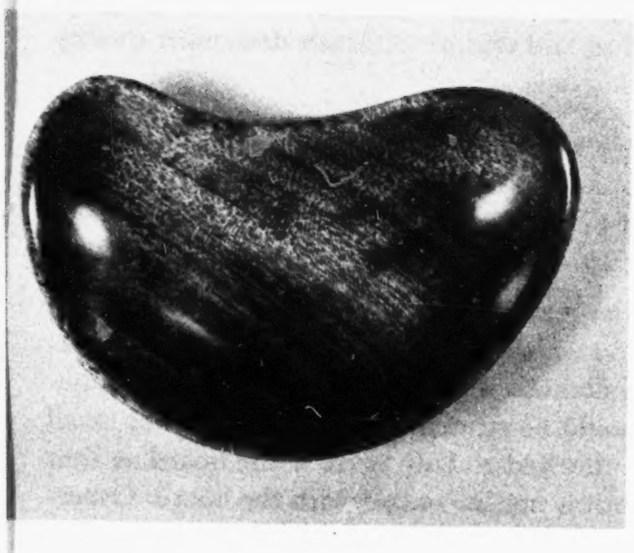
Use fine sandpaper for a smooth finish.

Use very fine steel wool for final finishing.

Articles to be used for food must be sealed with several coats of clear lacquer diluted with lacquer thinner sprayed or brushed on the piece or use French polish. Refer to recipe under Hawaiian Coconut Craft.

Sealing may also be done by applying a mixture of linseed oil and shellac. This will darken the wood a little.

Sharpen tools often during the carving.



Monkeypod Tray—Age 17

Monkeypod Spoons—Age 15

RESOURCE

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- **A.D. — Studio of the Art Director**

BOOK

Upper Elementary and Secondary

#Aller, Doris. *Sunset Woodcarving Book.* Menlo Park, California: Lane Publishing Company, c1951
L.H., A.A., A.D.

BATIK ON FABRIC

The word batik in Javanese means "wax painting." Batik is a resist technique and has been used for centuries by artists in India and Indonesia for decorative design on cloth for clothing and hangings.

VALUES

Batik:

Introduces a new technique for fabric design.

Provides experience in decorative design in borders or all-over pattern.

Offers experience in using dyes on cloth.

ALL-OVER DYE BATH METHOD ON CLOTH

EQUIPMENT AND MATERIALS

White, unbleached or colored muslin or any material which will readily take cold water dyes

Cold water dyes

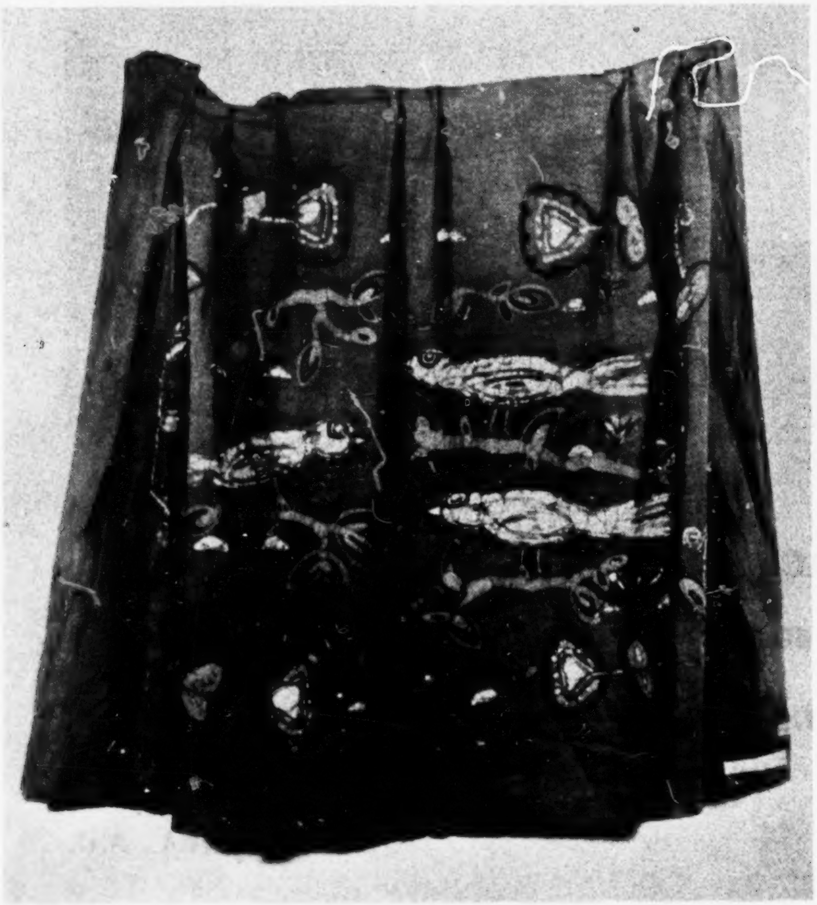
Pencil, chalk
or India ink

Rags

Paint thinner
or turpentine

Paraffin, candle stubs
or beeswax

Batik on Cloth—Age 11



EQUIPMENT

Heating equipment: hot plate, stove or electric cooker with thermostat. Regulated heat is most desirable since wax must be kept at low temperature. Double boiler or one small pot or coffee can which may be placed in a larger vessel for heating.

Caution: Never heat wax over direct heat or over high heat. It is highly flammable.

Brushes: cheap bristle brushes or soft-haired paint brushes. Size and texture of brush determine quality of line achieved.

Frame or board on which to stretch material.

This may be a rudely constructed wooden frame, an old picture frame or the underside of a small wooden table.

Material may be stretched over any kind of tack board to which it may be secured firmly with pins or thumbtacks. If this method is used, the material should be stretched over dowel rods or small sticks attached to both ends of the board so that the cloth is not in contact with the board. Otherwise part of the liquid wax would soak through to the board and adhere to it when the wax cools.

PROCEDURE FOR WAXING AND DYEING

1st application with wax determines white areas or lightest color.

Wash material if it has sizing in it. Dry and press.

Tack material to frame.

Melt wax slowly in double boiler or other prescribed container to liquid consistency hot enough to penetrate material.

Dip brush in melted wax and experiment on newsprint, absorbent paper or piece of cloth to determine control of brush and to get the feel of handling the wax.

Have a preliminary sketch to refer to or if material is transparent enough, place full-sized drawing of India ink or black crayon underneath material to serve as a guide. Or the design may be transferred to material with pencil or chalk.

Paint design with wax on stretched material, first laying in basic lines of form or design. Use a large brush to paint out large areas in the design.

Keep heating up wax so it is transparent and hot enough to penetrate material.

If the wax should not entirely penetrate the material, the wax must also be applied to the other side of the material.

As the wax dries on the brush, wipe it with a cloth saturated with paint thinner or turpentine.

If a crackle finish is desired after wax application, crumple cloth so that cracks appear on surface of wax. Then immerse in dye bath.

After design has been traced on material proceed as follows:

> Remove fabric from the frame.
>
> It is a good idea to make a "trial run", using the scrap of material used in trying out the wax to see how strong to make the dye bath. This dye will be the lightest color.
>
> Use cold water dye, following directions on package. Laundry tubs, wash tubs or a large sink should be used to completely submerge material which is folded gently to fit container.
>
> Immerse material in lukewarm water, then into lukewarm dye bath, starting with lightest color first. When using darker colors, start with medium color.
>
> Rinse and dry. Lukewarm temperature prevents wax from cracking.
>
> **Do not wring or crumple material.** Hang it to drip dry in shade if possible.
>
> If additional colors are desired, successive applications of wax must be applied to the design and the batik must be dyed again in a stronger or darker dye.
>
> **2nd application with wax** covers the first dye color only in the areas that are to remain the first dye color.
>
> Dye cloth with the second dye color; rinse and dry as above.
>
> **3rd application with wax** covers the second dye color only in the areas that are to remain the second dye color.
>
> Dye cloth with the third dye color; rinse and dry as above.
>
> Additional wax applications and dye baths may be applied for more colors if desired.

PROCEDURE FOR REMOVING WAX

> Press dry batik between newspapers to remove some of the wax.
>
> Dip batik in kerosene to remove remaining wax, agitating once in a while so wax will melt.
>
> Hang the batik up so kerosene will evaporate.
>
> Re-wash batik with small amount of mild soap in cold water.
>
> Color may be set by immersing batik in warm salt or vinegar solution.
>
> Batik may be left unwashed with some wax in it if it is to be used as a hanging.

RESOURCE

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- **A.D. — Studio of the Art Director**

BOOK

Upper Elementary and Secondary

#Cox, Doris and Weismann, Barbara Warren. *Creative Hands*. New York: John Wiley and Sons, Inc., c1945. Pages 193-199. L.H., A.A.

BATIK DECORATION OF EASTER EGGS

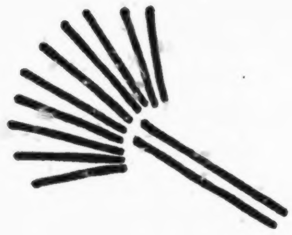
The tradition of coloring and decorating eggs for Easter is found in many countries at quite an early date. In Europe the eggs are decorated at leisure on the long winter evenings and then put away until Easter. They are given as tokens of friendship or engagement, not as food. The method generally employed is a resist technique using beeswax and cold dyes. Raw eggs are used in the belief that they take the dyes better, but sometimes eggs are boiled before decorating. When the design has been waxed and the egg dyed once or several times, the egg is heated slightly and the wax removed. The egg is then stored in a dry cupboard and eventually the yolk and white dry up inside the shell.

In European countries emphasis is on the beautifying of the egg itself, giving it importance as a symbol of new life. Some patterns are geometric while others are stylized from natural forms such as flowers, grain, vegetables, birds, fish and animals. These motifs are usually characteristic of the region in which they are used. They are often symbolic such as the sun for good fortune, the deer for prosperity and the fir tree for eternal youth. Dots and crisscross lines are ornamental and used to fill empty spaces. The designs on the eggs are similar to the embroidery of these European countries.

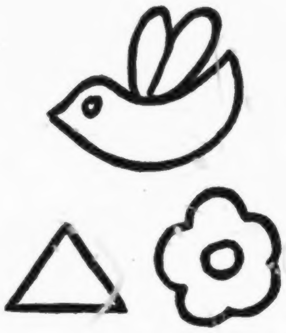
Batik Decorated Eggs from Europe—Honolulu Academy of Arts

THE DESIGN OR PATTERN

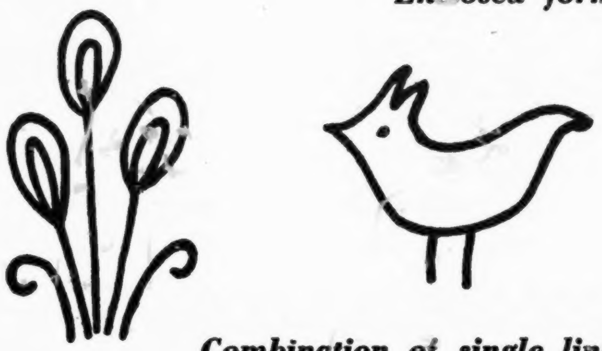
The design should be original and fit the sculptural form of the egg. It may be drawn freehand on the egg or planned first on paper. It is easier for very young children to draw freehand on boiled eggs with wax crayon. Let them draw their own reactions to Easter after a discussion of springtime, flowers, butterflies, baby birds, chickens, rabbits and eggs.



Single lines



Enclosed forms



Combination of single lines and enclosed forms

The design must have some or all enclosed forms if more than one dye color is to be used. If only single lines are used, they will be the color of the eggshell when the wax crayon or beeswax is removed and only one dye color could be used.

When the whole surface of the egg is well covered with design, the result is more interesting.

SUGGESTIONS FOR PATERNS

Abstract: Draw a continuous line all over the egg with straight and/or curved lines crossing each other to form areas of different sizes and shapes. Motifs may be added inside some or all of the areas for added decoration. Or an abstract pattern may be planned with lines that are not continuous.

Lines: curved, straight, wavy or zigzag drawn from end to end and/or around the center with other motifs added

Different borders repeated one under another

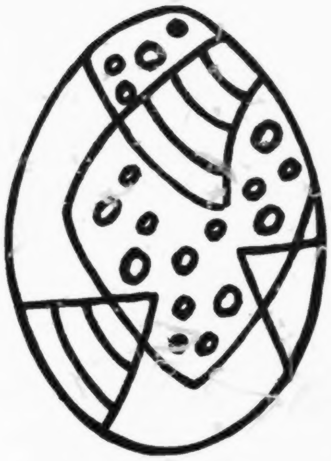
Repetition of motifs for all-over patterns

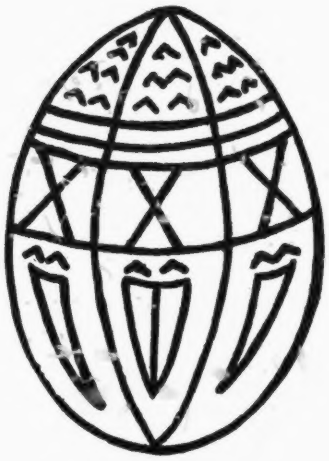
Stylized designs from nature, plant or animal life, the natural form simplified

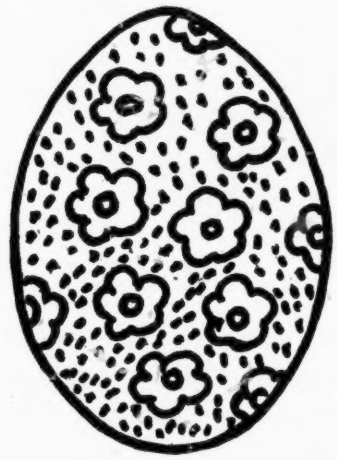
Geometric shapes: square, rectangle, triangle, circle

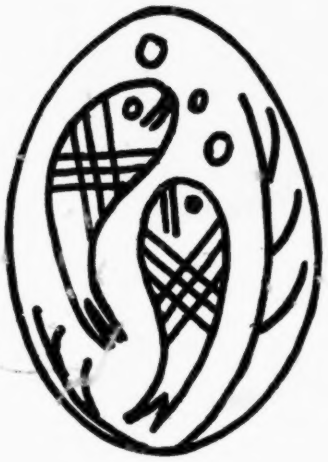
Patterns like those in peasant embroidery

Refer to section on Decorative Design or Pattern.









PREPARATION OF THE EGGS

COOKING THE EGGS

Use white or cream colored eggs. They must be fresh island eggs because cold storage eggs often have the shells "processed" and will not take the dye. Wash eggs in water containing white vinegar, 1 tbsp. to a quart of water.

Eggs should be at room temperature. Gently lower them into boiling water so that eggs will not sweat later when heat is used to remove the wax. Cook the eggs at a low heat for 15 or 20 minutes.

USING BLOWN SHELLS

Empty shells can be used for decorating instead of hard-boiled eggs.

To blow the raw egg out of the shell, pierce a small hole in each end of the egg with a needle. Enlarge the holes to about 1/8th of an inch. Move the needle around inside the egg to break the yolk.

Blow hard into one end of the egg and the contents will come out the other end.

Blown shells have to be handled carefully, but once decorated they last forever which is not true of hard-boiled eggs.

USING RAW EGGS

If a particularly interesting and intricate design is planned, it is worthwhile to use a raw egg and not blow the contents out of the shell until the decoration is entirely finished. A raw egg is much easier to dye than an empty shell because its weight will keep it submerged.

An egg that is to be blown **after** it is dyed should be sprayed with plastic when the wax is removed.

When the plastic coat is dry, holes are tapped in the two ends of the egg, the yolk broken up with a long needle, moved around gently in the egg and the contents blown out. The contents cannot be eaten.

PREPARATION OF THE DYE

VEGETABLE DYES

Stir 1/2 teaspoonful of vegetable coloring in half a cup of water and add 1 or 2 teaspoonful of white vinegar. Vegetable colors in bottles are excellent and the easiest of all to use. They are red, yellow, blue, rose pink, orange and green.

Or dissolve one dye tablet in a little boiling water, then add enough cold water to cover one egg. Put 1 or 2 teaspoons of white vinegar in each cup of dye solution. If the dye is too pale, use two tablets. These dyes make good colors, but are not strong enough for very dark overdyeing. If Easter dye tablets are used, experiment with different brands to find which has the strongest colors. However, all dye tablets make rather light colors.

DECORATION OF THE EGG

USING WAX CRAYON OR HOT BEESWAX AS RESIST

Use a wax crayon of medium value, not dark. The color is not important because the wax crayon is removed later.

Or use hot beeswax instead of crayon. See directions on Using Hot Beeswax as Resist.

If wax crayon is used, pencil drawing may be omitted and the design drawn directly on the egg with the crayon which has been sharpened to a point. Avoid smearing the crayon on other parts of the egg or those parts will not take the dye.

DYING WITH MORE THAN ONE COLOR

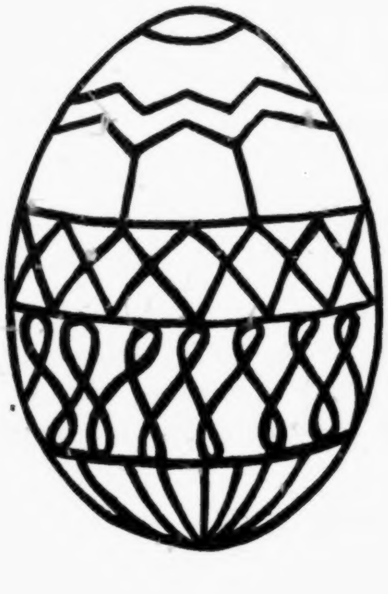
USING WAX CRAYONS AS RESIST

If several colors are to be used in the decoration of the egg, follow directions in 1 and 2, and then for 3, dye the egg the lightest color to be used. Say that this is yellow. Take the egg out of the yellow dye and dry it with tissue or a soft cotton cloth. Next use a yellow wax crayon to cover every part of the egg that is to remain yellow. Then dye the egg in the second color, say green. Dry the egg after it is green enough and use a green crayon to cover the parts that are to remain green. Then dye it in the final and darkest color. Three times with three colors is usually enough for most "artists". Suppose orange is used this time. When the egg is taken out, the orange will have made the background brownish-grey.

For a very dark color in the final dye use a larger amount of vegetable coloring in proportion to water.

1.

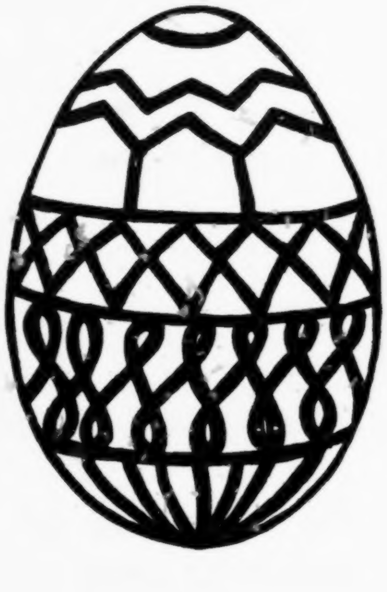
Draw the design on the egg with pencil.



It should be a **design** and not a picture.

2.

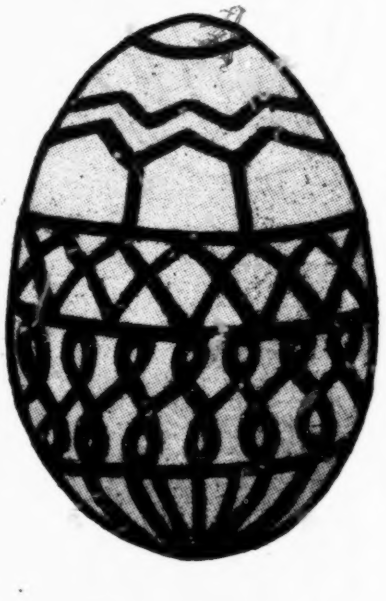
Go over pencil line with wax crayon or hot beeswax.



Do not use a dark crayon as it is hard to get off later.

3.

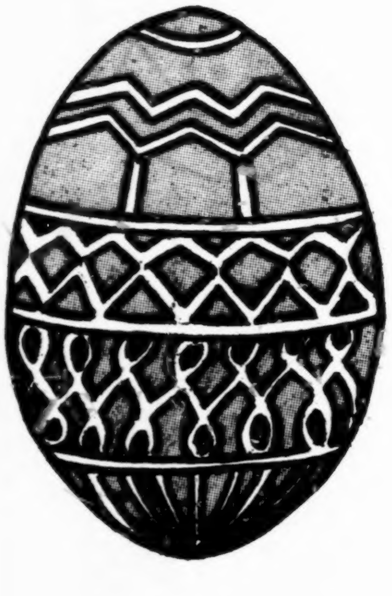
Lower egg carefully into dye with tablespoon.



Take it out and dry it by blotting with cleansing tissue or soft cloth.

4.

Heat egg to remove wax crayon or hot beeswax.



To remove crayon or beeswax, see instructions How to Remove the Wax.

For black, mix red, yellow and blue vegetable coloring and add vinegar, **but no water.** Use less yellow and more blue than red.

To remove the wax, heat the egg in the oven at a very low temperature about 200° and rub the wax off. See directions on How to Remove the Wax. The lines of the design will be the original white or cream eggshell color and areas other than the brownish-grey will be yellow and green. The dye goes through the crayon a little so a batik or antique effect results which some people like better than the clean cut effect of hot beeswax. The beeswax makes a finer and crisper line.

OVERDYEING

Generally, it is best to use colors that dye over each other naturally as red over yellow making orange; but if green and red or strong pink are needed on the same egg, paint in small areas of one color or the other, using a small brush and strong dye such as undiluted vegetable coloring. Let this dry, then cover these areas with hot beeswax or wax crayon and proceed as described under Dyeing with More than One Color.

USING HOT BEESWAX AS RESIST

Small cakes of beeswax may be purchased at the needle and thread counter in department stores.

Draw the design lightly with pencil on the raw or hard-boiled egg.

Heat the point of a stub or speedball pen in the flame of a short candle firmly stuck in a 1 pound coffee can. When the pen point is hot, plunge or jab it into a cake of beeswax for a couple of seconds.

When the beeswax melts, draw over the pencil line on the egg with the hot wax. It is necessary to jab the pen in the wax often because the beeswax cools. This makes a finer line than the crayon and a crisper line since the hot wax protects the shell more completely.

It is possible to cover the larger areas by filling them in with wax with the pen point or apply melted beeswax with a small brush, about #0 or #1.

Another tool may be made by pushing a common pin into the eraser end of a pencil and jabbing it into a cake of beeswax after heating the pin in a candle flame. Lines of different widths may be made by having several tools with pins of different sizes. The eraser of the pencil may be covered with heavy aluminum foil if necessary. This pin tool may also be used by dipping it into hot liquid beeswax. The beeswax may be melted in the cups of a small muffin pan heated on an electric plate. If the muffin tin is of lightweight metal, a heavy metal pot protector should be used under it for safety as beeswax is flammable.

Follow directions for 3 and 4 under Decoration of the Egg if only one dye color is to be used. When using several colors, cover areas with hot beeswax between dye baths instead of the colored wax crayon, following instructions under Dyeing with More than One Color.

HOW TO REMOVE THE WAX

Heat the egg in an oven at 200°. Make a holder of heavy paper about 1" by 3" and secure with a pin. Place the egg on it and then on a pan. Or place it on a folded newspaper or cloth. As soon as the wax begins to melt, take the egg out and rub the wax off with cleansing tissue or a soft cloth.

Instead of putting the egg in an oven, it can be held over a candle flame. Heat and rub off a little of the wax at a time. Be careful not to "smoke" the shell.

POLISHING

Polish the egg with bacon fat or salad oil for additional sheen or spray with plastic if desired. A plastic coating makes the egg more durable.

RESOURCES

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BOOKS

Elementary and Secondary

#Best-Maugard, Adolfo. *A Method for Creative Design.* New York: Alfred A. Knopf, c1927.
L.H., A.A., A.D.

Mann, Kathleen. *Design From Peasant Art.* New York: The Macmillan Company, c1939. L.H.

LEATHERCRAFT

Leather has been used throughout civilization. Cavemen used hides of animals for clothing and floor coverings. Later skins were used for tents and are still used by nomadic tribes. The Indians of America had good knowledge of leather and women did the tanning. The early colonists also tanned skins. Since then scientific developments have been made and beautiful leather may be purchased in domestic and foreign markets.

If leather has been properly tanned and construction is superior, leather articles will last indefinitely. Leather may be cut, impressed with tools, rolled, sewed and bent. Leather breathes which makes it excellent for shoes.

VALUES

Working with leather:

- Develops creative ability in design and good craftsmanship.
- Develops appreciation for the practical and beautiful qualities of leather.
- Develops proper planning and knowledge of different kinds and characteristics of leather.
- Gives opportunity to make useful articles and develop a hobby, avocation or vocation.

USES

- Bookmarks
- Handbags
- Clothing
- Coin purses
- Brief cases
- Stamp cases
- Key cases
- Book covers
- Wallets
- Desk sets
- Belts
- Book ends

DESIGN

Simple original line, geometric or simplified and stylized design from nature is more suited to our contemporary living. A more simple design shows the beauty of the leather. Avoid Indian heads, naturalistic pictures and other inappropriate designs for decorating leather.

EQUIPMENT AND MATERIALS

- Tooling calfskin, cowhide, goatskin, pigskin and sheepskin
- Deer, elkskin, kangaroo, reptile and marine animal skins
- Suede and skiver or lining leather
- Lacings for joining
- Newsprint, tracing or typing paper for designing
- Oxalic acid crystals for cleaning with a sponge, 1 tsp. dissolved in 1 qt. of water
- Oil or analine dyes for coloring
- Rubber cement for joining edges of leather or for joining skiver lining to leather if the finished article must be flexible. Rubber cement rubs off surface and does not damage it.
- Glue for stiffening between lining and leather
- Snaps
- Zippers
- Eyelets
- Buckles
- Key frames
- Plastic for billfold windows
  - Substitute: used x-ray film
- Pencils for tracing design
- Thread
- Neutral polish
- Paste wax
- Sponges
- Modelers for tooling impressions in leather
  - Substitutes: nut picks and orange sticks
- Deerfoot for lowering an area
- Tracing tool
  - Substitute: pencil
- Ball end tool for embossing from wrong side
- Stipplers for texture decoration
  - Substitutes: stylus, hardwood stick, nut picks and pointed orange sticks
- Stamping tools for decorating by impressing
  - Substitutes: homemade from large nailheads on which design is filed

Edge tool for a line finish on edge of leather
Leather knives for cutting leather

Skiving knives for thinning edges to be joined and for thinning ends of lacing to be joined or spliced

Punches: rectangular for lacing; separate punches in several sizes for holes for lacing and eyelets; or one revolving punch with several sizes attached

> Substitute: File off point of a shingle, lath or 16 penny wire nail. Use it round for holes for eyelets or lacing or file off four sides on the end until the end is rectangular for holes for lacing. Hit with hammer.

Eyelet punch for fastening eyelets to leather
Snapsetting tools: 2 parts for applying snaps
Hammer, small
"Stitch-marking wheel" and awl for marking and punching holes for hand sewing
Needles for sewing
Lacing needles

> Substitute: 2½" darning needles or tapestry needle with large eye. Or stiffen the lacing end with a light application of glue.

Steel squares 12", rulers 12", steel ruler or discarded lawn mower blade for cutting large patterns or belts
Large piece of zinc on which to cut leather or zinc covered table
Piece of plate glass, masonite or zinc for working surface
Small blocks of hardwood to protect table when punching leather
Sewing machine if possible

PROCESSES

Cutting and tracing.

Decorating methods: line tooling, flat modeling, embossing, stamping, carving, beveling and dyeing or in combination.

Sewing by hand or machine.

Lacing and assembling.

Setting of eyelets, snaps and key frames.

PROCEDURE

Plan pattern.

Leave about 3/8" border free of design so edge will be free for lacing and not appear crowded.

Cut leather sizes needed and round the points of rectangular or square pieces slightly where necessary.

Cut paper for design large enough to fold over leather.

Dampen wrong side of leather with moist sponge until the surface is evenly dampened.

Attach the tracing paper with design to other side of leather with small pieces of masking or scotch tape which is easy to remove.

Trace design with considerable pressure onto leather, impressing with tracing tool or pencil. Use ruler when tracing straight lines. For curved lines pull tool back while turning leather with other hand in the opposite direction.

Remove paper and repeat this process directly on the leather with the liner point of the modeling tool, but do not use the ruler. Work carefully as it is difficult to correct mistakes.

Finish with other methods of decorating if desired. Join pieces of leather with rubber cement or glue for sewing or lacing. Punch holes for lacing, then lace the edges.

Polish slightly with neutral polish or wax.

RESOURCE

The Code used for books is as follows:

*** — Recommended for school libraries**
# — Listed previously in Resources
L.H. — Library of Hawaii, Music and Art Room
A.A. — Honolulu Academy of Arts, Educational Department
A.D. — Studio of the Art Director

BOOK

*Aller, Doris. *Sunset Leather Craft Book.* Menlo Park, California: Lane Publishing Company, c1952.
L.H., A.D.

METAL AND JEWELRY

Creating with metal has been an important art form since earliest times. The design of utensils and jewelry by ancient people from many lands was very beautiful and has inspired modern artists in this field.

Metals may be explored in the upper elementary grades in the making of mobiles, stabiles, Christmas ornaments and jewelry of copper wire. Children at this age may also enamel on copper which involves soldering. These activities may be done with a minimum of equipment. Older students may do the same with the addition of silver jewelry and enameling on silver.

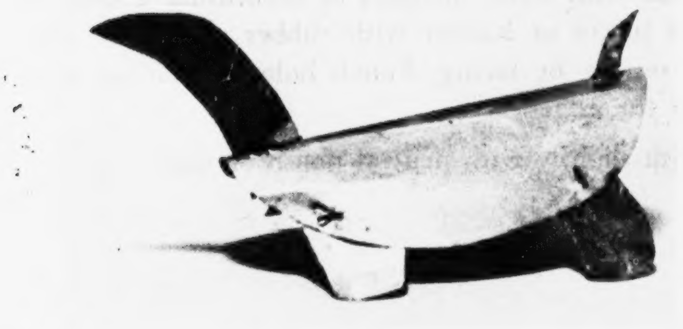
VALUES

Working with metal:

- Develops an understanding of metal in man's daily life.
- Develops an appreciation of good design and craftsmanship in articles of metal.
- Provides an introduction to a vocation, avocation or hobby.
- Gives satisfaction in creating a beautiful and useful article.
- Offers opportunity to make gifts.

METAL WORK

Many useful articles may be made of metal as listed below. It is necessary to give demonstrations as to procedure and the proper use and care of tools.



Tin Sculpture—Age 11

DESIGN

It is essential that the students learn the characteristics of a metal, which one is best for a certain project and what kind of design is best suited to the material. Metal may be combined with wood or plastic. The choice of metal, the design and the procedure are all an important part of the creative process. The students should be introduced to fine design in metal through books, magazines and film strips. The design should be the original expression of each individual student.

USES

- Book ends
- Candleholders
- Garden markers
- Jewelry: bracelets, buckles, cuff links, earrings, pendants, rings, belts
- Key tags
- Lanterns, Christmas tree ornaments and angels from tin cans
- Plaques
- Medal or pin for school activities
- Mobiles and stabiles
- Paper knives (letter openers)
- Table decorations
- Trays
- Wire sculpture
- Weather vane Outdoor sign
- Lamp base Sundial
- Masks
- Bowls and plates

METALS INCLUDING WIRE

- Aluminum
- Brass
- Copper
- Gold
- Iron
- Lead
- Nickel
- Pewter
- Silver
- Steel
- Tin
- Zinc

DECORATING METHODS

- Chasing
- Enameling
- Hammering
- Repoussé
- Chemical Coloring
- Embossing
- Polishing
- Etching

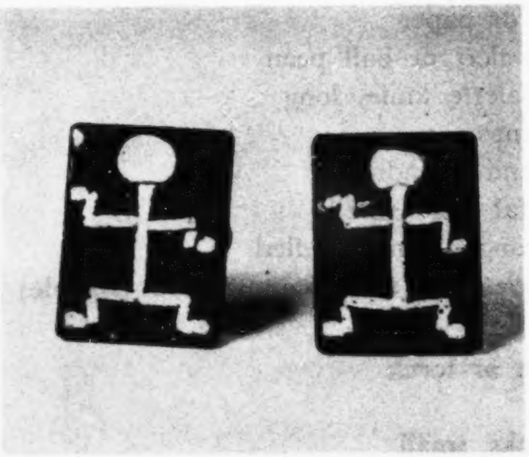
EQUIPMENT AND MATERIALS

- Metal, sheet or wire, suitable for project
- Hand drills and bits
- Hammers, ball peen
- Mallets, rawhide or wood
- Pliers, flat and roundnosed
- Electric polishing wheels or hand buffer
- Saw frames and blades for metal
- Hack saw
- Metal shears
- Vise, small or bench pin
- Anvil
- Dividers
- Chasing tools
- Steel ruler
- Files: flat, triangular and half-round
- Nail set
- Soldering gun or torch
- Etching trays, glass
- Jars, glass
- Charcoal blocks
- Wood block, concave on one end and convex on the other end
- Acid: nitric, hydrochloric and sulphuric
- Asphaltum lacquer
- Binding wire
- Emery paper and cloth, assorted sizes
- Liver of sulphur (Potassium sulphide)
- Pumice, powdered
- Solder and soldering flux
- Steel wool, size #000

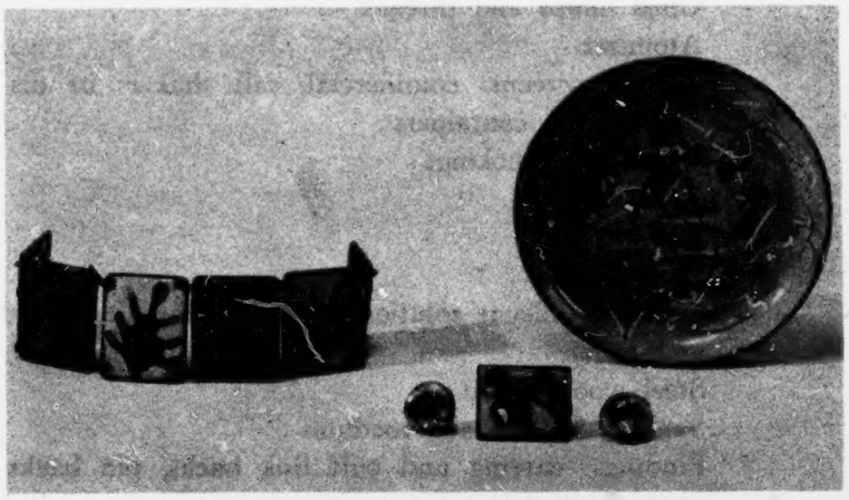
ENAMELING ON COPPER

Enameling is the art of applying a permanent glossy surface to metal. Enamel is glass ground to a powder with chemicals and oxides added for color.

Counterenameling is applying enamel to the back as well as the front of a piece. **Do not enamel** on the back of an earring, cuff link or other piece where a finding is to be soldered.



Enameled Earrings—Age 11



From left to right: Cloisonne Bracelet—Age 14; Cloisonne Earrings and Pin—Age 15; Enameled Plate—Age 13.

EQUIPMENT AND MATERIALS

- Brushes, flat and pointed (small)
- Metal shears
- Hand drill and bits
- Mallet, rawhide
- Electric polishing wheel or hand buffer

Files: flat, triangular, half-round
Vises, small or bench pin
Saws and blades, jewelers
Tongs, copper or wooden
Racks, wire screen made for kilns
Asbestos or fireproof mat
Copper, 16 or 18 gauge
Copper wire
Liver of sulphur (Potassium sulphide)
Rouge, jewelers'
Emery cloth or paper
Hammer, jewelers or ball peen
Spatula or palette knife, long
Alligator clamps
Pliers, flat and roundnosed
Strainer, metal tea (small)
Fork, two-pronged long-handled
Kiln, small electric (with pyrometer if possible)
Tweezers
Soldering gun or torch
Tray, glass
Firebrick blocks, small
Nichrome wire
Dental tools, discarded
Gum tragacanth
Acids: nitric, hydrochloric or sulphuric
Enamels, many colors
Glass lumps and threads
Atomizer
Enamel screens: commercial, salt shakers or discarded film containers
Nylon, old stockings
Lavender oil
Rags, clean
Sand bag
Salt and vinegar solution, substitute for nitric acid and water
Steel wool, #000
Sandpaper, fine and medium
Findings: earring and cuff link backs, pin backs, clasps and chains for necklaces
Solder and soldering flux
Asbestos glove

PREPARING COPPER FOR ENAMELING

Design the piece first on paper. Strive for originality in planning free forms or geometric shapes.

Cut or saw the shape from the copper sheet. While sawing keep the saw perpendicular to the copper and saw the length of the blade.

File the edges round. Enamels will not remain on a sharp edge when fired.

To shape, pound with a jewelers' hammer or rawhide mallet on a wooden mold or sand bag. This is done when a curved surface is wanted.

Remove all pencil or crayon lines. They may cause pinholing.

CLEANING COPPER

Cleanliness is most important.

Remove grease by placing piece of copper in the hot kiln a few seconds. Before it cools, drop it in acid solution.

Acid solution is one part nitric acid to two parts of water. Place the water in a glass dish and slowly add the acid. **NEVER add water to the acid. Use only copper or wooden tongs** to remove copper from acid bath. Leave in acid bath until metal is a pink color. Remove and dip in clear water. Touch only the edge of the copper with the fingers after it has been in the water.

Household scouring powder, fine steel wool and salt and vinegar solution may be used for cleaning copper, instead of acid, by younger children.

APPLYING ENAMELS

Transparent enamels are those the light passes through, revealing the color or texture of the metal or enamel under coat.

Apply several thin coats of transparent enamel before firing, distributing enamel evenly.

Unusual colors can be obtained by using layers of different colored transparent enamels.

Opaque enamels are those that metal or colors cannot be seen through.

Smoother textures result when one thin coat is fired at a time.

Opaque colors mixed do not blend, but give a salt and pepper effect or the second coat may cover the first completely.

DUSTING METHOD

Brush a thin coat of an adhesive solution over the clean metal surface, using gum tragacanth or lavender oil.

Place copper on a clean six-inch square of smooth white paper.

Dust a fine uniform coat of dry enamel through an 80 mesh screen. A portion of a nylon stocking secured by an elastic band over the opening of the enamel jar or discarded film container will serve as a screen.

Tap the screen gently, do not shake.

Beginning at the edge, work around the piece toward the center until the surface is completely and evenly covered.

Cover edges well since enameling tends to recede from the edge on firing.

Return surplus enamel which collected on white paper to enamel jar.

Enamel must dry completely before the piece is fired.

With a spatula or palette knife, lift the enameled piece onto a firing screen rack. Then place the rack into the heated kiln by lifting it with a long-handled two-pronged fork.

SPATULA METHOD

Powered enamel is mixed with a weak gum solution and applied with spatula or knife.

DIPPING METHOD

Mix enamel with water to the consistency of syrup.

Warm metal slightly.

Hold piece by edge with tweezers or tongs and immerse in the syrupy mixture.

Rotate metal to distribute enamels evenly and to get off the excess enamel.

POURING METHOD

To pour, hold warmed piece by edge and pour enamel mixture over surface.

Pour inside curves first.

Rotate until surface is covered entirely.

Tap or shake gently to remove excess enamel.

SPRAYING METHOD

Mix enough water and a little gum with enamel to produce a mixture just thin enough to go through the nozzle of the sprayer.

Warm the copper for better adherence.

PAINTING METHOD

Mix enamel with gum solution and apply with pen or brush.

If too thin or watery, it may disappear when fired.

STENCIL METHOD

Refer to section on Stencils and Stenciling.

Apply one coat of enamel and fire.

Cut a simple form from absorbent paper to use as a stencil.

Dampen stencil in water and place on the enameled surface of the copper.

Spray the exposed enameled surface and the paper pattern with gum.

Dust the enamel on.

Carefully remove the stencil. A pin may help lift it without damaging the outline. Return surplus enamel which collected on the stencil to the enamel jar.

Allow enamel to dry.

Re-fire.

SGRAFFITO

Apply a base coat of enamel by dusting or painting, then fire.

Apply gum solution again and dust a second coat of enamel completely over the first fired coat, using a contrasting color.

Cut into the powdered enamel with a blunt instrument such as a dental tool, hairpin or tapestry needle, allowing the original color to show through.

Re-fire.

CLOISONNÉ

Cloissonné is composed of small compartments with walls of fine wire. These compartments or cloisons are filled with enamel and fired.

Apply the first coat of enamel, fire, apply gum, lay wires on copper and fire again.

Cloisons are filled and fired again and again.

Be certain tools are clean when changing from one color to another.

The first or base coat may be clear or colored enamal or a mixture of leftover enamels.

COUNTERENAMELING

Copper may be enameled on both front and back which is called counter-enameling. This is advisable for thin or large pieces to keep the metal from expanding unevenly and thus prevent warping, chipping and cracking.

The back is usually enameled first with clear enamel or a mixture of leftover enamels. Underfire slightly until the enamel is pebbly. Remove from kiln, cool and clean off the oxidation with fine steel wool. Now apply enamel to the front. Use decorative process desired. Support piece on nichrome wires imbedded at a slant in a piece of firebrick. Be sure that only the edges of the copper touch the wires, that the piece is level and not touching the firebrick. The back and front may be enameled with one firing, but is more difficult.

FIRING

Preheat kiln to 1500°F. Enamel fuses at 1350° to 1450°F, but opening the kiln door causes the temperature to be reduced.

Quick hot heat is better than a slow long heat.

Transparent enamels take a temperature close to 1500°F.

Opaque enamels require 1200°F.

Enamel pieces must be dry and should be warm before putting in the kiln.

Pieces enameled on both sides must be supported on metal trivets. A trivet may be made by sticking pieces of nichrome wire into a piece of firebrick. A trivet may also be made by inserting pieces of nichrome wire into ceramic clay and firing beforehand.

Be sure no metal is used inside the kiln that melts at a low temperature as it will ruin the kiln.

Place the piece with the powdered enamel on the screen rack.

Firing Enamel on Copper

Lift the rack into the kiln with a long-handled two-pronged fork or a long spatula. This must be done most carefully to prevent disturbing the enamel.

Using an asbestos glove will prevent burning the hand.

Stay by the kiln while the piece is firing, about two or three minutes.

The sugar-like texture will melt. It first turns dark and pebbly. Next it becomes ripply like an orange skin. Finally it turns red and the enamel glows.

Remove from the kiln when the surface is smooth and glossy all over.

The top of the kiln is a good place to cool the piece. It must cool gradually.

After each firing, clean off scale of oxidation with fine steel wool.

Do not apply another coat of enamel until all scale has been removed from the exposed metal. If scale is not cleaned off, black particles will flake off on the enamel.

REMOVING OXIDATION SCALE

Use steel wool or scour with household scouring powder and water to remove all trace of black oxidation.

Emery cloth is good on stubborn marks.

Swab with diluted acid. Do not allow acid to come in contact with the fired enamel for some enamels are dulled by acid.

If the oxidized metal resists cleaning and is nonflaky, an opaque enamel may be applied over it.

There is a protective agent that may be applied to the exposed side of the metal to prevent black flaking. It is sold by firms selling materials for enameling.

FINISHING

A fine jewelers' file will help smooth edges. Be careful not to chip the edge of enamel.

Rinse and dry after cleaning.

Metal surfaces may be buffed with tripoli or jewelers' rouge.

Polished metal surfaces may be waxed or given a coat of thin, clear lacquer to prevent oxidation, but there must be no finger marks on it. These marks will discolor under the lacquer.

Complete the jewelry pieces with appropriate findings, cord or chain.

Back may be soldered on with soft solder which requires little heat or attached with jewelers' cement. Alligator clamps or tweezers are used to hold the piece of jewelry. Use soft solder the size of a pin head. Place the finding on it, heat with low heat until it bubbles and then turns silver. Do not jar.

TONING OR DARKENING METAL

After cleaning metal with steel wool, rinse in water.

Place in a bath of liver of sulphur. Leave until copper is blackened.

Remove and rinse in running water.

Dry in the sun. Do not wipe dry or dry with artificial heat.

Use steel wool to polish the high spots.

Apply coat of clear lacquer, thinned.

GUM TRAGACANTH

Gum tragacanth solution is used to hold the powdered enamel to the metal until it is fired.

Drug stores sell it in flaked form.

To make gum solution:

To one quart of water add 3/4 ounce of flaked gum. Let soak 24 hours. Strain. If solution is too thick, soak for another 24 hours. Strain again.

A few drops of carbolic acid added will preserve it for a year.

SUGGESTIONS

Dirt, hair, lint, steel wool and metal filings must be kept from powdered enamel before firing. Keep enamel jars covered.

Metal must be absolutely clean before applying the enamel. Oil from fingers may cause chipping after firing. If metal is clean, water should form a fine film over the copper surface.

Use clean cloths to dry the metal.

Fire only when piece is thoroughly dry. If not dry, cracks may appear in the enamel. Also glass or wire applied for decoration will fall off due to the bubbling of the gum tragacanth.

Some color will appear transparent when overfired, others will be darkened. Red turns black.

With too high a temperature, enamel will lose color.

Burnt colors, blackened edges and bubbles may all be results of overfiring. Underfire early coats when several firings are planned.

Lumpy finish means too much enamel unevenly applied.

If partly black, enamel was not put on thick enough nor evenly.

If blacks spots were caused by fire scale or bits of steel wool, clean back well, cover with opaque enamel and re-fire.

If bubbles appear, re-fire after breaking them with sandpaper. If bubbles are large, fill with enamel and re-fire.

Enamels of the same color will look different when applied with gum solution and when applied dry.

Cracking is caused by firing too quickly on too lightweight copper or by too thick an application of enamel.

Flat pieces tend to crack more than curved ones.

Pinholes may be caused by too much gum solution.

METALLIC FOIL USED IN COPPER AND SILVER ENAMELING

Both gold and silver foils may be used.

Foils covered with transparent enamels give a sparkle finish.

Foil should be placed between two pieces of tracing paper to cut since it is hard to handle and susceptible to oily fingers.

Fire the base coat preparatory to adding the foil.

Prick many pinholes into the foil if large pieces are used to allow air to escape. A cork with many needles inserted makes a good piercing tool.

Wet enamel base with gum solution.

With wet brush pick up foil shape and push it into position.

Foil must be flat. Blotter or cleansing tissue may be used to remove excess moisture. Allow gum to dry completely.

Remove and burnish the foil with the handle of a kitchen knife.

Cool and cover with transparent enamel. Sift enamels on evenly and thin.

Be certain piece is dry, then fire.

ENAMELING ON SILVER

TO CLEAN SILVER

Heat the silver until a dull red, then cool. Do not use plated metals.

Immerse in bath of sulphuric acid and water, 1 part sulphuric acid to 4 parts of water. Use a Pyrex dish and heat over a low flame. Acid should be hot but not boiling.

Caution: Add acid to water. Never add water to acid.

When a clean whitish color, remove from bath with tweezers or tongs.

Rinse in clear water.

Dip in a warm solution of 1 part nitric acid and 1 part water plus a pinch of salt called a "bright dip."

Use tongs.

Rinse immediately.

Use fine steel wool to polish.

ENAMELING

See Enameling on Copper.

Fine silver.

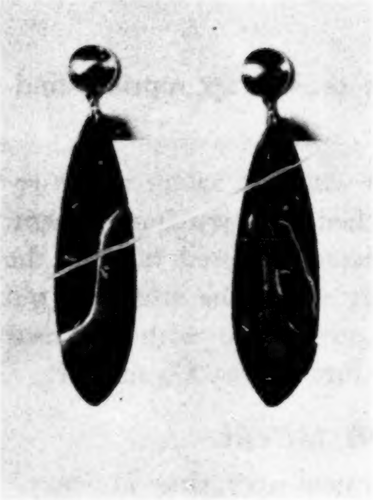
- Heavy 16 or 18 gauge fine silver is preferred.
- Fine silver costs a little more than sterling.
- Pure silver does not oxidize. This eliminates cleaning between firings.
- Melting point of fine silver is 1761°F. Firing temperature of most enamels is 1350° to 1450°F.

Sterling Silver.

- Sterling starts to deform at 1500°F. Pieces should never be fired higher than 1400°F.
- Not more than one or two firings should be planned. More firings may cause the alloy to discolor.
- Pieces should be counterenameled.
- Concave shapes are the most successful.
- Undercoat of clear flux is often used on sterling.

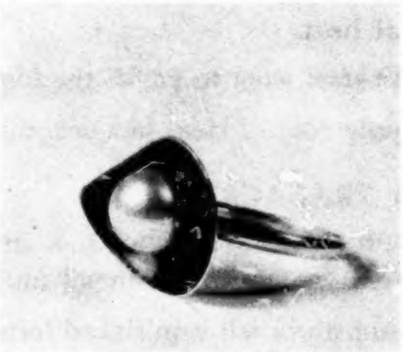
SILVER JEWELRY

Silver jewelry challenges the creative and the craftsmanship abilities of the high school student to a degree found in few other areas of the art department. Books and film strips are available with examples of fine design.



Silver on Ebony Wood—Age 17

Silver and Pearl—Age 18



Silver and Ebony Wood—Age 18

DESIGN

The creative process of designing a piece of jewelry must be considered as important as the execution. In order to design jewelry, the designer must first learn the possibilities of the medium. A series of demonstrations, film strips and simple projects will familiarize the student with the medium.

In the design phase of jewelry making, certain elements of good design will not be understood if too many possibilities are available to the student all at once. The first problem should stress simplicity.

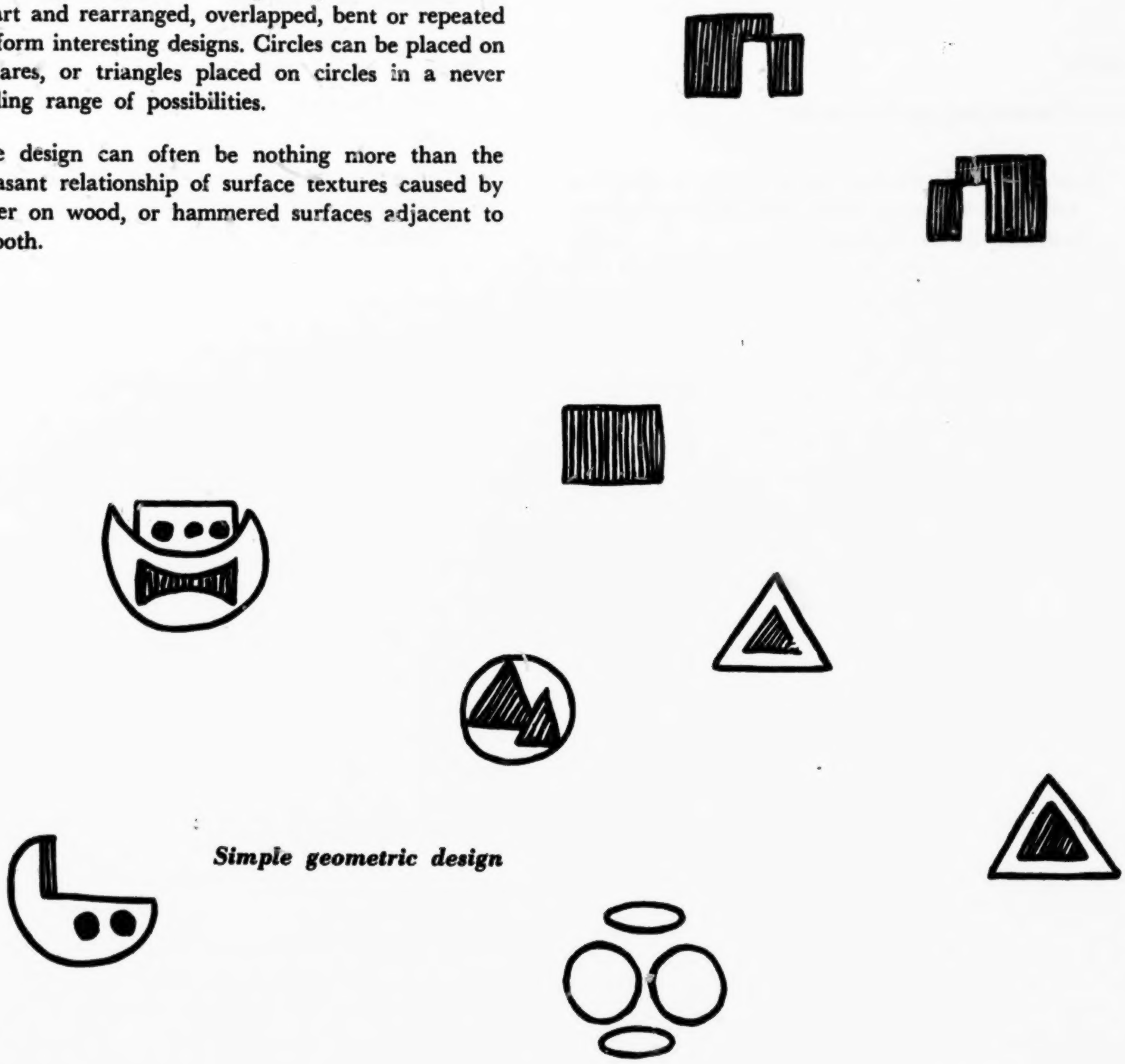
Geometric shapes provide a familiar foothold for the beginning designer. A simple square can be cut apart and rearranged, overlapped, bent or repeated to form interesting designs. Circles can be placed on squares, or triangles placed on circles in a never ending range of possibilities.

The design can often be nothing more than the pleasant relationship of surface textures caused by silver on wood, or hammered surfaces adjacent to smooth.

Designs simplified from nature or abstract, non-objective shapes might be used. Simplicity cannot be overemphasized at this point. To copy a natural form is not design. The design should be selected primarily for its shape and how well it fits the spirit of the jewelry piece being made.

EQUIPMENT AND MATERIALS

Silver: German or nickel, sterling sheet and wire
Silver solder
See list under Metal Work and Copper Enameling



Simple geometric design

RESOURCES

The Code used for books is as follows:

- *** — Recommended for school libraries**
- **# — Listed previously in Resources**
- **L.H. — Library of Hawaii, Music and Art Room**
- **A.A. — Honolulu Academy of Arts, Educational Department**
- **A.D. — Studio of the Art Director**

BOOKS

Upper Elementary and Secondary

**Amaco Metal Enameling. Booklet No. 7.* American Art Clay Company, 4717 West Sixteenth Street, Indianapolis 24, Indiana. A.D.

#*Art for the High School. Growing with Art Series.* Syracuse, New York: The L. W. Singer Company, Inc., c1957. Pages 52-61. A..A, A.D.

Kronquist, E. and Pelkan, A. G. *Simple Metalwork.* New York: Studio Crowell, Inc., c1940. L.H.

Martin, Charles J. and D'Amico, Victor. *How To Make Modern Jewelry.* Scranton, Pennsylvania: International Textbook Company, c1949. L.H., A.A.

Tearle, Peggy. *Costume Jewelery.* New York: Studio Crowell, Inc., c1953. L.H.

Thompson, Thomas E. *Enameling on Copper and other Metals.* Thomas C. Thompson Company, 1539 Deerfield Road, Highland Park, Illinois. (free) A.D.

Winebrenner, D. Kenneth. *Jewelry Making As An Art Expression.* Scranton, Pennsylvania: International Textbook Company, c1955. L.H., A.A.

PUPPETRY

Throughout all countries and since ancient times, the puppet theater has been popular with both children and adults.

The Magic of Puppets

VALUES

Puppetry develops imagination because inanimate objects made of various materials take the place of real live people and animals. Even the audience uses imagination in watching the performance.

In integration with other areas of learning such as social studies, health and language arts, these subjects are made more interesting and meaningful.

Creativity is nurtured when the plays is an original one and when there is **imagination** and **exaggeration** in the construction of the puppets.

It uses the element of play and fantasy so natural to children when they project themselves into other characters. The young child is interested in the "make believe" in contrast to the adolescent who is interested in producing a play in a more adult way.

Children gain experience in working together for a common goal. The performers are all dependent on one another. It helps the antisocial and aggressive children to cooperate in a group.

Puppetry helps the shy and self-conscious child to gain security in expressing himself. It is an aid in correcting speech and diction. It helps the teacher to recognize talents and potentialities in each child especially when using the creative approach.

Many materials and tools are used creatively which develops invention and coordination.

It incorporates so many activiites including creation of play, design and construction of puppets and stage, dramatization and sometimes music. A rhythm band might furnish music in kindergarten and primary grades.

It provides an art activity suitable for any age or ability level including the exceptional children.

THE PLAY

Problem stories are more suited to dramatization than those that are purely narrative. In a problem story the characters go through a series of actions and events that lead to a crisis wherein a problem must be solved. "The Three Billy Goats Gruff" or "The Gingerbread Boy" for young children and "The Legend of Sleepy Hollow" for older ones are examples of stories with problems.

INFORMAL AND CREATIVE

These performances may be done with or without a stage. These methods aid in personality development and in creative, independent thinking. They may be used at all levels.

Puppets or marionettes made for fun and then grouped for original plays:

Dialogue improved and spoken spontaneously especially by very young children.

Dialogue written and dramatized by the children, not necessarily using the same words at each performance.

Original play created by children and puppets constructed afterwards to represent the characters.

Dramatization of a story someone else wrote, but using their own words in the dialogue with characters constructed from their own imagination and not copied from pictures in the book.

FORMAL

A play is chosen and puppets or marionettes are constructed for the characters. The script is written by the students or memorized and the performance is produced on a stage.

The performers interpret the exact words of the play. The pupils will create their characters in the way they use their voices and in the manner in which they manipulate the puppets or marionettes.

This method is too exacting for elementary grades and more suited to the secondary school.

SUGGESTIONS

Puppetry establishes confidence which carries over into creative dramatics. Likewise creative dramatics prepares for puppetry even though performed in a very simple and spontaneous way. It paves the way for confidence in the children in identifying themselves with various characters. The performance will be different at different levels of maturity. Let the children "be" themselves by using their own words and actions rather than directing them in adult acting. This normal procedure will prepare children for creative unselfconscious dramatization in adolescence even though using more adult techniques.

Sometimes it is interesting to use different kinds of puppets including marionettes, in the same performance. If so, the stage must be made for under and above stage manipulation.

WAYS OF MOTIVATING

Discussion and questions concerning puppets or marionettes seen in performances or on television.

Inspiration from a story, poem, excursion, special holiday, music, health, social studies and science.

Borrowed puppets used as an inspiration for making their own.

An array of materials provided from which the children will be free to make any kind of puppet fantasy inspires.

For adolescents good literature, episodes from history or problems of contemporary living.

The teacher is an important part of the play in motivating and guiding even when young children are improvising or when older ones are planning, doing research and executing the production themselves.

THE PUPPETS

Puppets and marionettes may represent people, animals, birds, insects and sea life and may be fantastic, imaginative or realistic. They may be painted and decorated with all kinds of materials. There is no end to what initiative and imagination can produce for decorating. Keep a scrap box.

SUGGESTIONS

Collect many kinds of materials for construction of characters. Refer to list of materials under Exploring and Experimenting.

Very young children should make puppets that take only a short time to finish and which are suited to their level of maturity.

Puppets or marionettes should be made so they hold together during the performance.

Encourage children to exaggerate in the creation of the puppets and to use imagination in the use of color and decoration.

Puppeteers may perform without a stage in full view of the audience or be hidden while operating from a stage. Kindergarten or first graders may build up a row of blocks to separate actors from audience.

Practice manipulating puppets so as to avoid jerky gestures.

Push Puppet with Movable Head and Hand Puppet with Papier-mâché Features on Sock Head

PUSH AND PULL PUPPETS

A **Push Puppet** is a construction that is held and pushed on a table while the puppeteer talks for it.

A **Pull Puppet** is a construction that is pulled by a heavy black thread across the table stage.

Push and pull puppets are a natural development from the activity of play in which young children engage.

SUGGESTIONS FOR PUSH AND PULL PUPPETS

Scraps of wood glued or nailed together.

Cardboard box figures.

Paper, corrugated or plain in the round (three dimensions).

Tin can figures from various sizes of cans.

Cardboard cones with heads of spools or balls. Use flexible, thin cardboard to form cone.

Driftwood and other native materials.

The puppets may be decorated with paint, button eyes, yarn or string hair, pipe cleaner or rope arms, wire mesh wings and many other materials.

FINGER PUPPET

A Finger Puppet fits over the forefinger.

A head may be made from any of the following:

Stuffed paper bag or sock attached with rubber band or string to the forefinger.

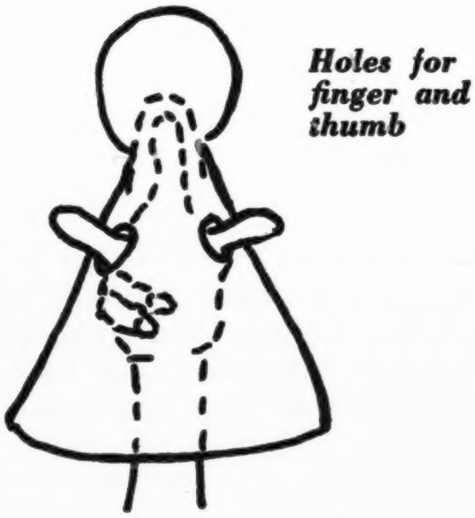
A match box, pillbox, or any small box.

A rubber ball, apple, potato, gourd or eggshell with a hole cut for forefinger.

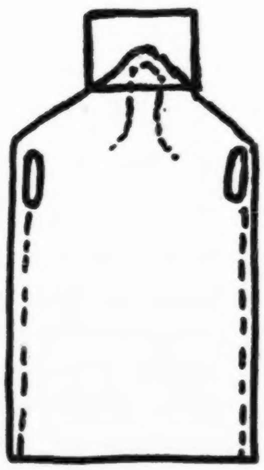
If desired, a cloth or scarf may be draped over the finger or fastened around it. Cut two holes in the cloth for thumb and second fingers which act as hands.

A costume may also be made by folding a piece of cloth and sewing the sides, leaving openings on each side for thumb and second finger.

Ball for head



Box for head



STICK PUPPET

A Stick Puppet is fastened to a stick, umbrella stave, bamboo or cardboard tube. Shadow puppets are also stick puppets. Stick puppets are worked from below the stage.

Stick Puppet—Age 6

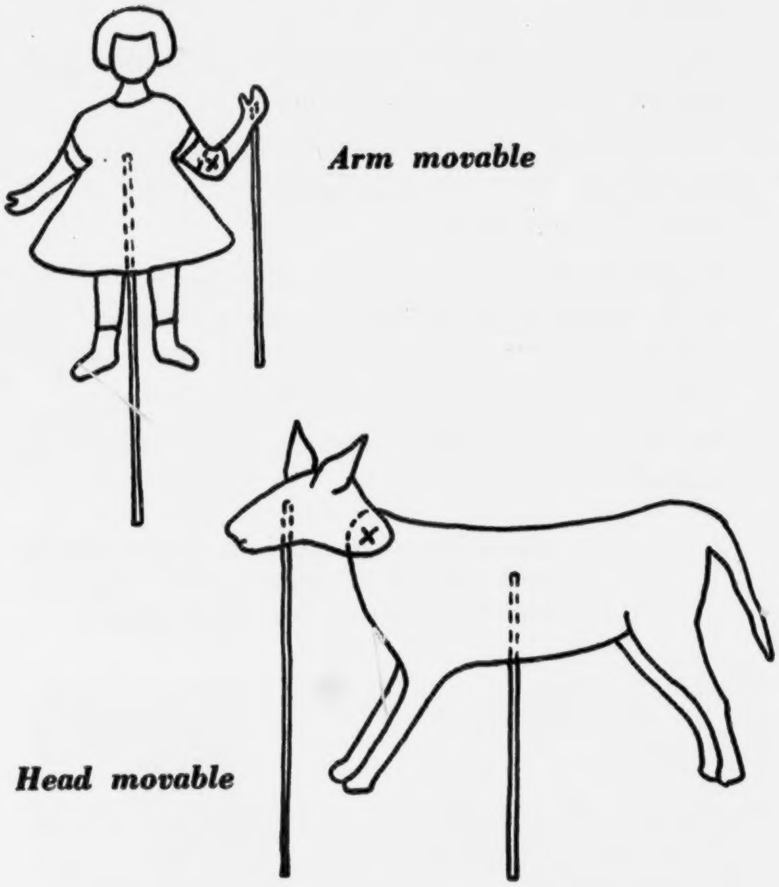
SUGGESTIONS

A silhouette may be painted on paper, pasted to tag or thin cardboard, cut out and fastened to the stick. The silhouette may be of front, back or side view of the puppet. Or it may be painted directly on thin cardboard.

A cardboard tube or wooden spoon decorated and dressed makes a good stick puppet.

A paper sculpture head may be attached to a cardboard tube or stick. Additional movement may be accomplished by strings, thin sticks, stiff wire or umbrella staves attached to arms, legs, wings or heads. Movement must be restricted as one hand must hold the puppet while the other hand is able to move only one or two strings or sticks at a time.

When movement is desired in silhouettes, the parts to be moved must be drawn and cut separately from the rest of the figure. Attach parts to figure with brass paper fasteners. Then fasten a stick to the movable part.



Stick puppets are worked from below the stage

STRING PUPPET

A string puppet is one that is operated by strings attached to various parts of the puppet. Young children may work this simple type of marionette with one or two strings fastened to the fingers or held in the hands.

SUGGESTIONS

A string puppet may be made from many kinds of materials including those suggested for push puppets. Strings also may be attached to paper bag and other types of hand puppets or to peanut, spool or rag dolls.

Characters of paper or corrugated cardboard in the round may be worked with strings attached. Refer to section Creating with Paper.

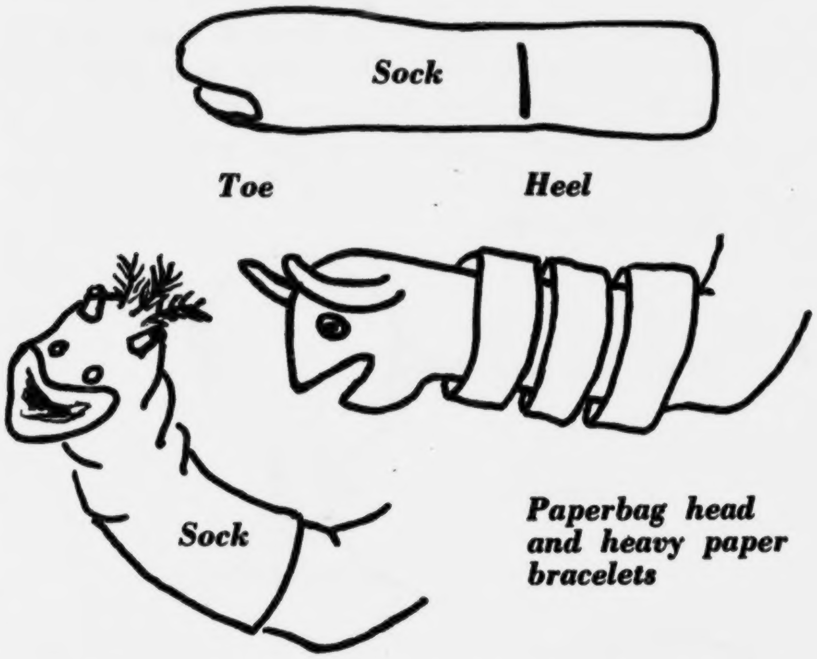
Use heavy black thread for strings. String puppets are worked from above a table or stage.

ARM PUPPET

The Arm Puppet covers the hand and arm. It is made of a sock, large rolled paper or cardboard tube, paper bag or a number of wide bracelets made of heavy or corugated paper placed over the hand and arm.

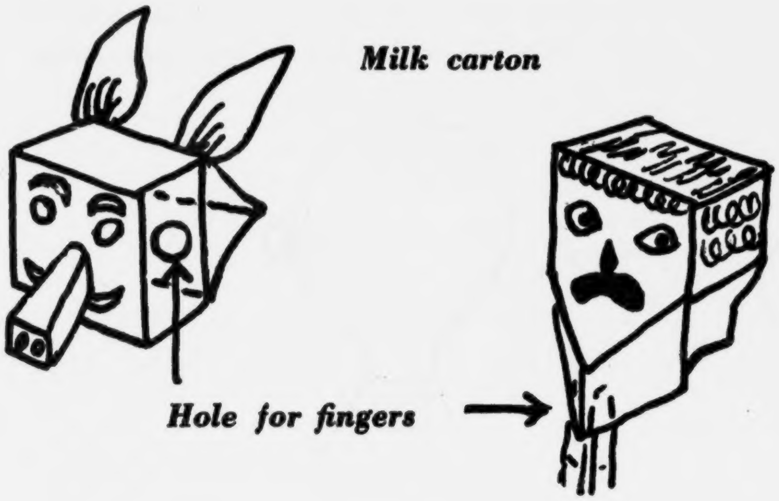
The head of an arm puppet is on the puppeteer's hand and jaws of the puppet are moved by opening and closing the four fingers over the thumb inside the head

Arm puppets


Sock
Toe
Heel
Sock
Paperbag head and heavy paper bracelets

When using a sock, push heel inside and tack it with needle and thread. Pull toe in for mouth and tack it.

A small milk carton will fit over a young child's hand. To paint the carton, dip the paint brush in paint, then on soap so the paint will adhere to the waxy surface. Apply two or three coats and then decorate when dry. Throw a square of cloth over hand and place carton over the cloth. This is good for Kindergarten and Grade 1.

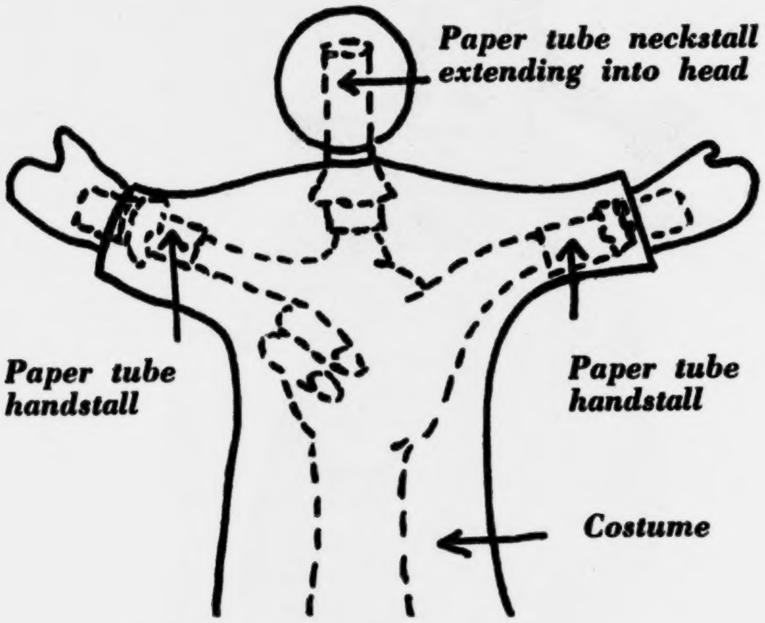


HAND PUPPET

Hand Puppet from a Cardboard Roll

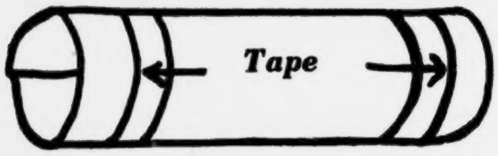
Papier-mâché and Paper Bag Hand Puppets—Ages 10 and 8

A Hand Pupet is worn on the hand with the first finger inserted in a tube neckstall while the thumb and second finger act as hands or control hands fitted to sleeves. The costume covers the wrist.



NECKSTALL AND HANDSTALLS

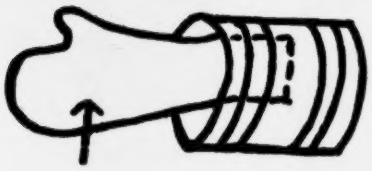
The paper tube neckstall is made by rolling a piece of bristol paper, thin tagboard or chart paper over the forefinger. Cut paper 2" x 3" or 3" x 4" depending on size of head. Fasten with a piece of masking tape around tube at each end.



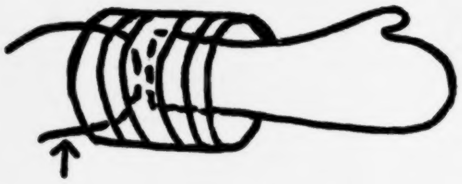
The tube is inserted in the head

Handstalls are made half the length of the neckstall. The hands are stapled or sewed to the handstalls.

Handstalls are optional because fingers may be used for hands or hands made of material or wood may be fastened directly to sleeves of costumes. See list under Hands.



Hand fastened to handstall



Be sure handstall fits thumb

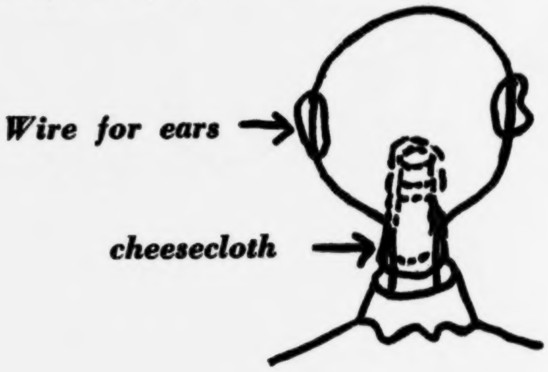
VARIOUS METHODS OF MAKING HEADS FOR HAND PUPPETS

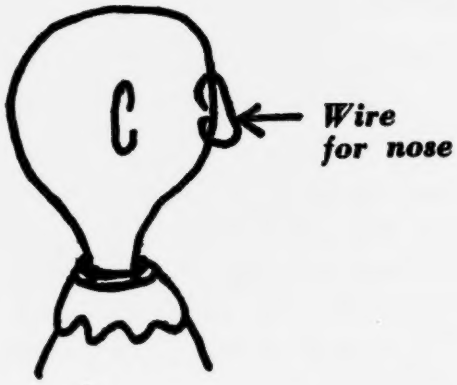
1. **Paper bag head** stuffed with crumpled paper

   Insert neckstall, leaving about an inch protruding for the neck. Wind string around outside of paper bag at neck and tie. The costume may be sewed or glued to the string.

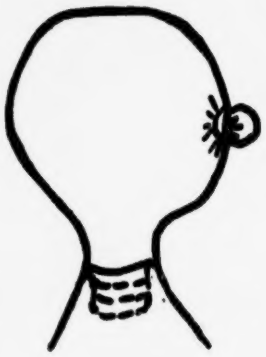
2. **Sock head** stuffed with cotton batting
   See directions above for inserting neckstall and attaching costume.

   Add features to a sock head by inserting a wire through two threads cut in the sock. Apply glue so wire sticks to sock. Then apply pulp papier-mâché features over the wires. If features come loose when dry, apply more glue where feature joins sock. Refer to section on Papier-mâché for recipe for pulp.





A nose may also be made by pulling some of the stuffed sock out and tying it with fine string.

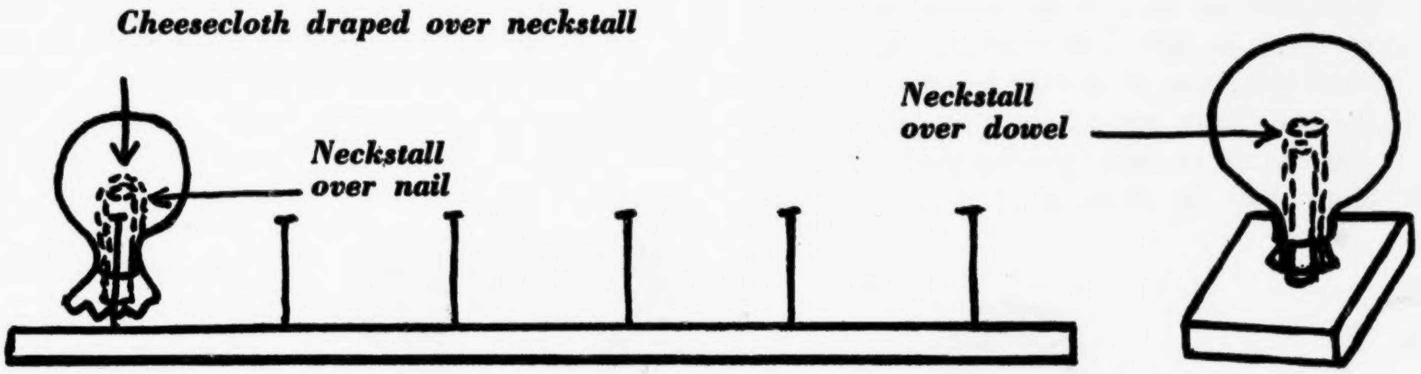


3. **Pulp papier-mâché head**

Refer to section on Papier-mâché for recipe for pulp.

Form a ball of papier-mâché which can be modeled like clay. Drape a piece of cheesecloth or other thin cloth about the size of a handkerchief over neckstall. This can serve as a base to which a costume may be sewed. Make a hole in the ball with forefinger and insert neckstall.

Young children usually make depressions for features. Older children model or add papier-mâché eyes, eyebrows, ears and lips.

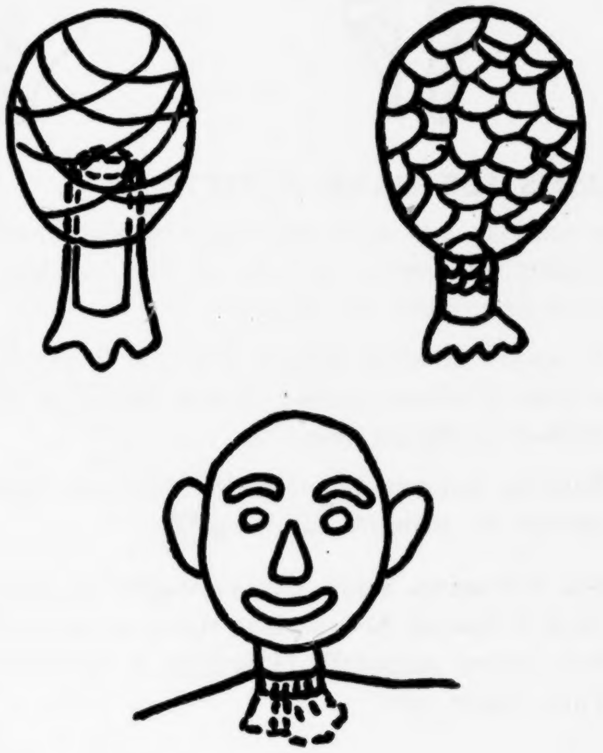


Modeling may be done by holding the ball in the palm of the hand. For easier modeling place ball with neckstall inserted on a stand made by nailing a piece of dowel 1/2" diameter by 3" in length to a wooden stand. Dry on stands or on large nails hammered into a board.

Buttons or seeds for eyes and various materials for hair can be attached to the head while wet. They will stick because there is paste in the mixture. The heads may be painted when dry.

4. **Strip papier-mâché head—solid**

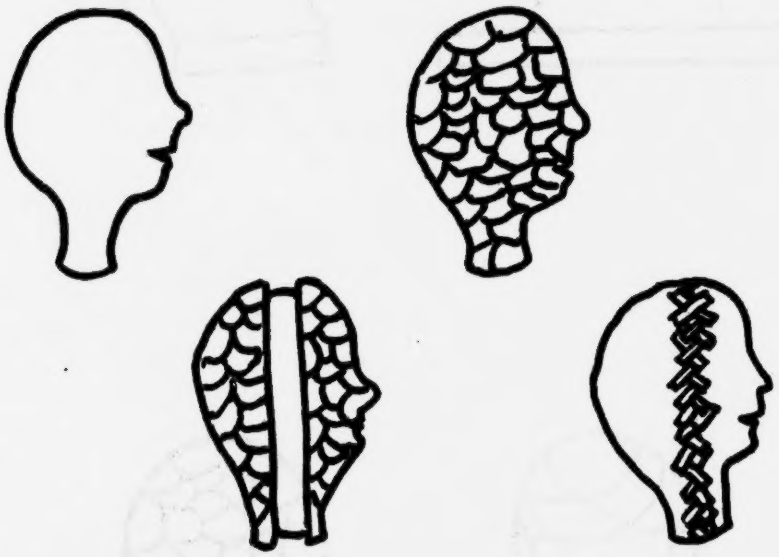
Drape cheesecloth or other thin cloth over neckstall. Crumple paper for head over neckstall and tie with fine string. Let the neckstall protrude about an inch for the neck. Cover head and upper part of neck with small torn pieces of paper toweling or newspaper which have been dipped in wheat paste. Overlap these like shingles on a roof. Apply about four layers of these shingles to the head and neck. Add features with wads of little pieces of paper that have been soaked in the paste. Mash these up in the fingers to form pulp papier-mâché and model onto the head. When dry, decorate as desired. Sew costume to cheesecloth at neck.



5. **Strip papier-mâché head—hollow**
   Various foundations for hollow heads
   1. Crumpled paper over neckstall tied with string
   2. Electric light bulb
   3. Modeled head and neck of clay covered with grease or pieces of damp paper when the clay is leather-hard or dry
   4. Modeled head and neck of plasticine which does not need to be greased
   5. Eggshell over neckstall not greased

   Procedure

   Apply four layers of torn "paste-soaked" pieces of paper over a foundation which has been greased if necessary. When thoroughly dry, cut the head in half with knife or single edged razor blade and remove the foundation. Fasten the two pieces together by covering the joint with layers of torn "paste-soaked" pieces of paper. Dry and decorate.



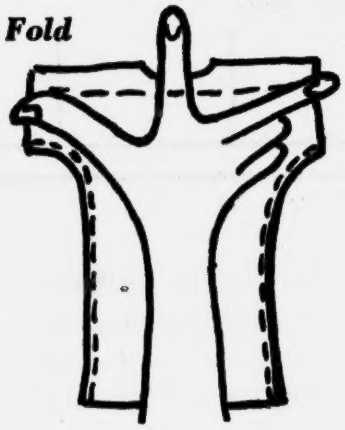
COSTUMES FOR HAND PUPPETS

The patterns are basic and may be elaborated on according to fancy. Designs or textures may be painted or printed on costumes.

1. A square of cloth draped over the forefinger or a piece of cloth fastened around the finger as described for finger puppets.
2. Kimono pattern cut after folding once, approximately 8" wide by 12" long.

   Sew side seams. Seams may be stapled on paper or cloth if desired. Sew neck to string or cheesecloth that covers neckstall. Hemming is unnecessary. Turn inside out.
3. Kimono pattern with neck of cloth which fits over neck or neckstall. Sew shoulder and side seams. Sew or glue to neckstall.
4. Kimono patterns ***2*** and ***3*** may be slit to form pants. Sew around slit. Also cut a horizontal slit at back for inserting hand.
5. Boy's costume, shirt and pants: Follow patterns ***2*** or ***3*** for shirt, but cut it shorter. Cut pants double and as wide as possible at bottom to conceal wrist and arm. Join pants to front of shirt as indicated by dotted line in illustration so the hand may be inserted into shirt.
6. An animal's or bird's costume may be the same as those above. Fur or feathers may be added if desired. The character is identified by the way the head is made and by the dialogue.

1



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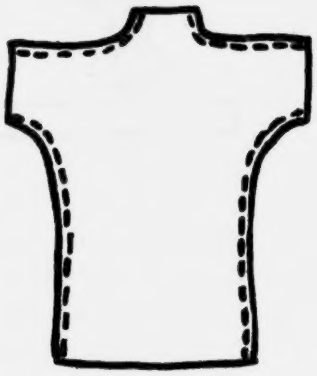

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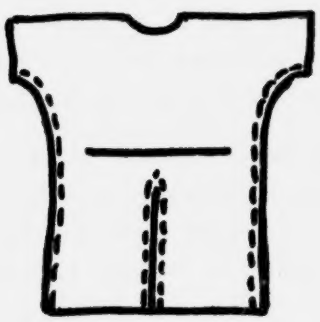
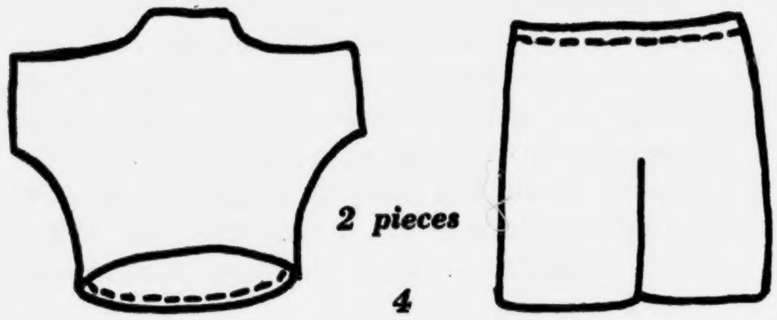


Width is equal to span between thumb and second finger for sleeves

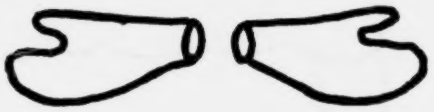


4

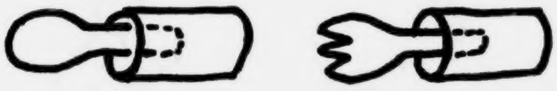
HANDS FOR HAND PUPPETS AND MARIONETTES

1. Thumb and second finger of puppeteer for hand puppets only.
2. Mitten hands modeled from pulp papier-mâché.
3. Mitten style hands cut from heavy cloth, scrap leather or plastic, only one thickness. If material has a wrong and right side, be sure to cut a left and right hand.
4. Mitten style hands cut double, sewed, turned inside out and stuffed a little.

Mitten hands



5. Paper spoons or forks with part of handles cut off.

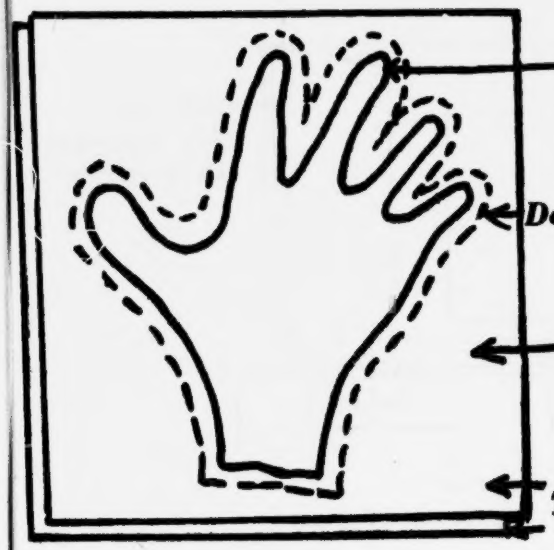


Wooden spoons or forks with or without handstalls

6. Pipe cleaner hands are flexible and useful if the puppet is to carry something. With pipe cleaners form outline of hand mitten style or with fingers. Use wide tape and press the hand on this. Cover with another piece of tape. Press firmly around shape of hand and fingers. Then cut off all excess tape. It can be bent as desired.

Be sure to make a right and left hand

Pipe cleaner hand

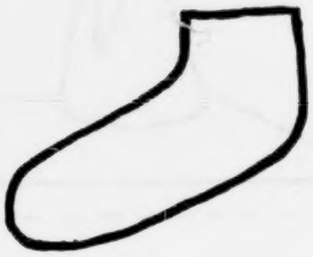

Outline of hand made with pipe cleaner placed inside two pieces of tape
Dotted line for cutting
Discarded
Two pieces of tape

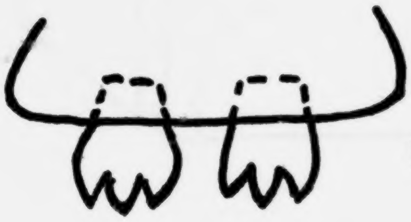
Hands 2, 3, 4, 5 and 6 may be sewed or stapled to sleeves or fastened into handstalls which are fastened to sleeves.

FEET FOR HAND PUPPETS

Feet or shoes are optional and may be fastened to front of costumes by stapling. They may be front or side view.

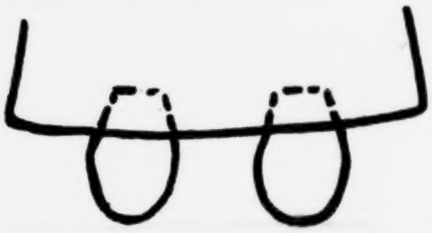
Be sure to make a right and left foot





Wooden forks

Wooden spoons



Hair: string, rope, yarn, pipe cleaners, wood shavings, steel wool, seeds, native fibers, feathers, curled paper or paint

Eyes: seeds, buttons, sequins or paint

Skin: complextion color or any color not realistic

PROPERTIES

Houses, trees and other properties may be painted on cardboard, attached to sticks and used like stick puppets.

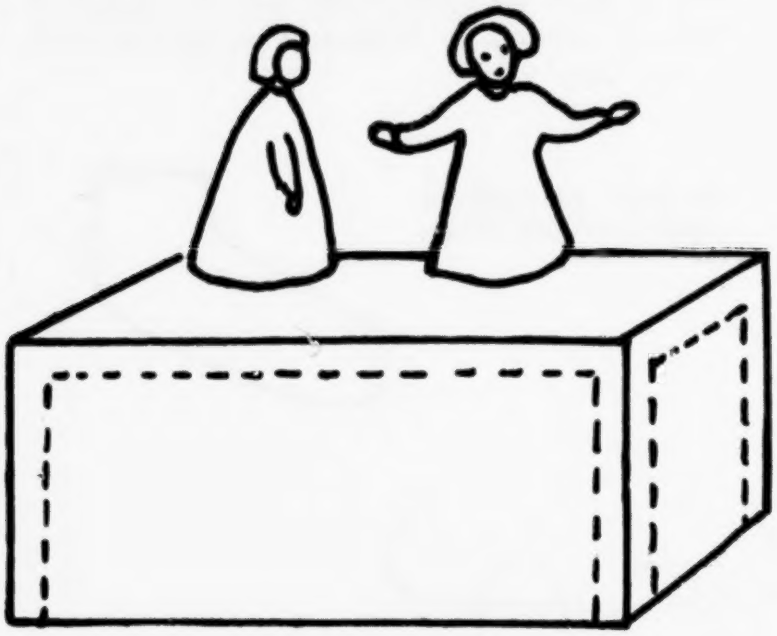
MANIPULATION

Hand puppets and arm puppets are worked from below the stage.

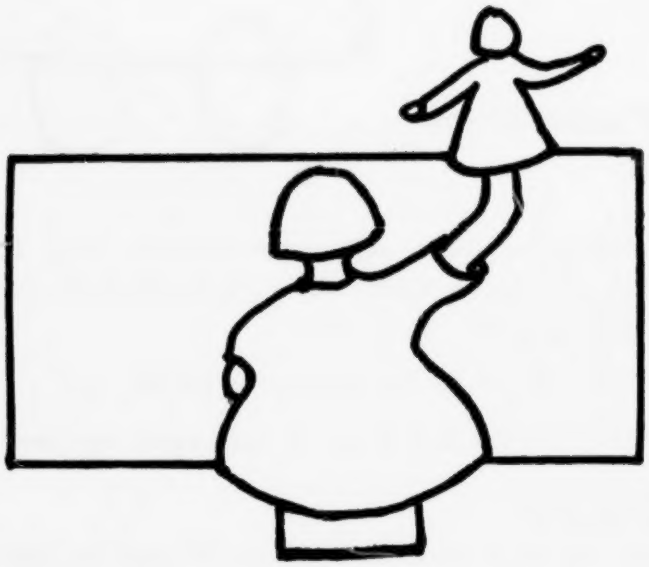
Practice moving puppet while speaking. Usually the rest of the puppets are not moving so attention will be on the one speaking.

HAND PUPPET STAGES

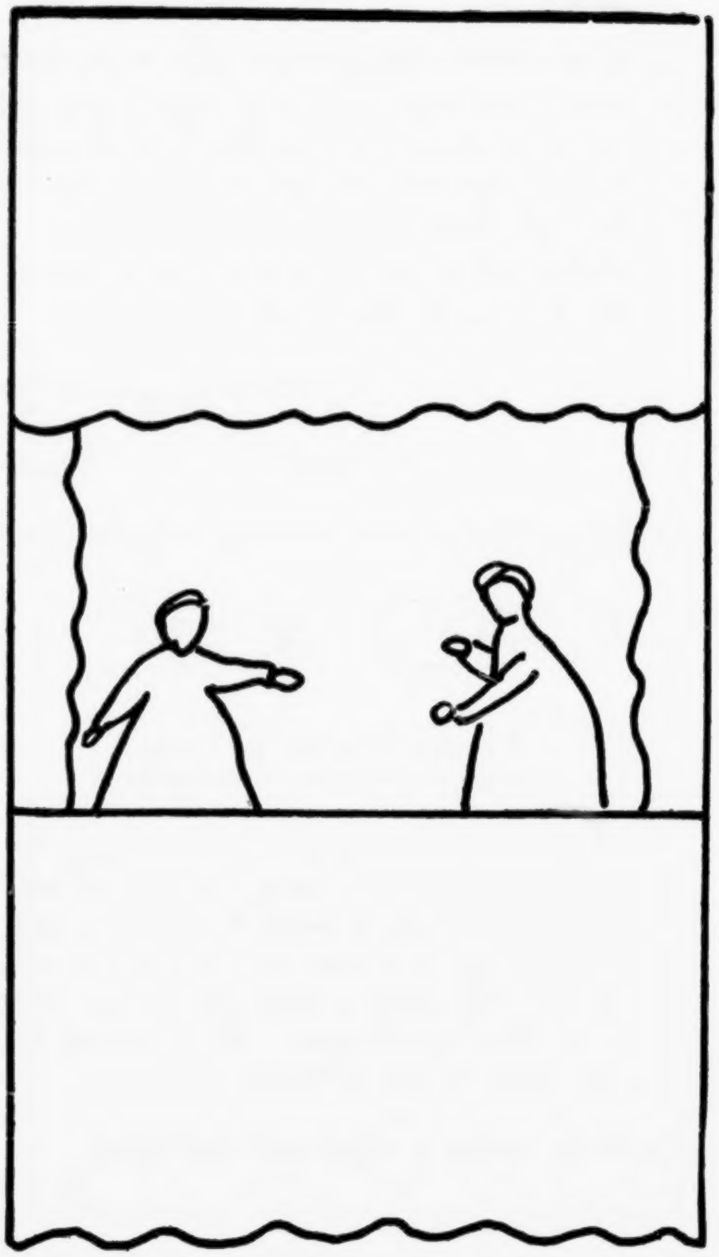
1. Fasten wrapping paper or cloth on front and sides of a table. Puppeteers are on floor behind table or sitting on footstools.

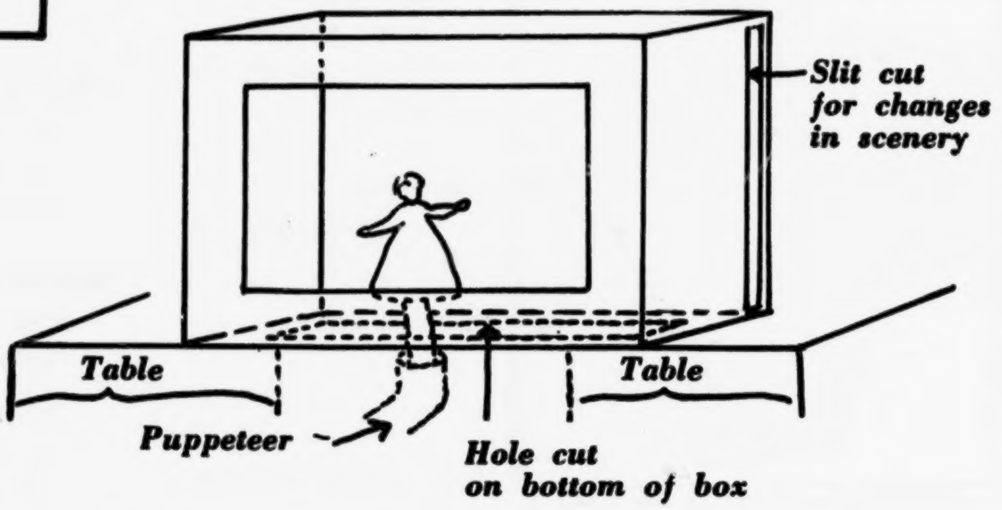


2. Tack paper or cloth to back of doorway. Children manipulate puppets by kneeling or sitting.



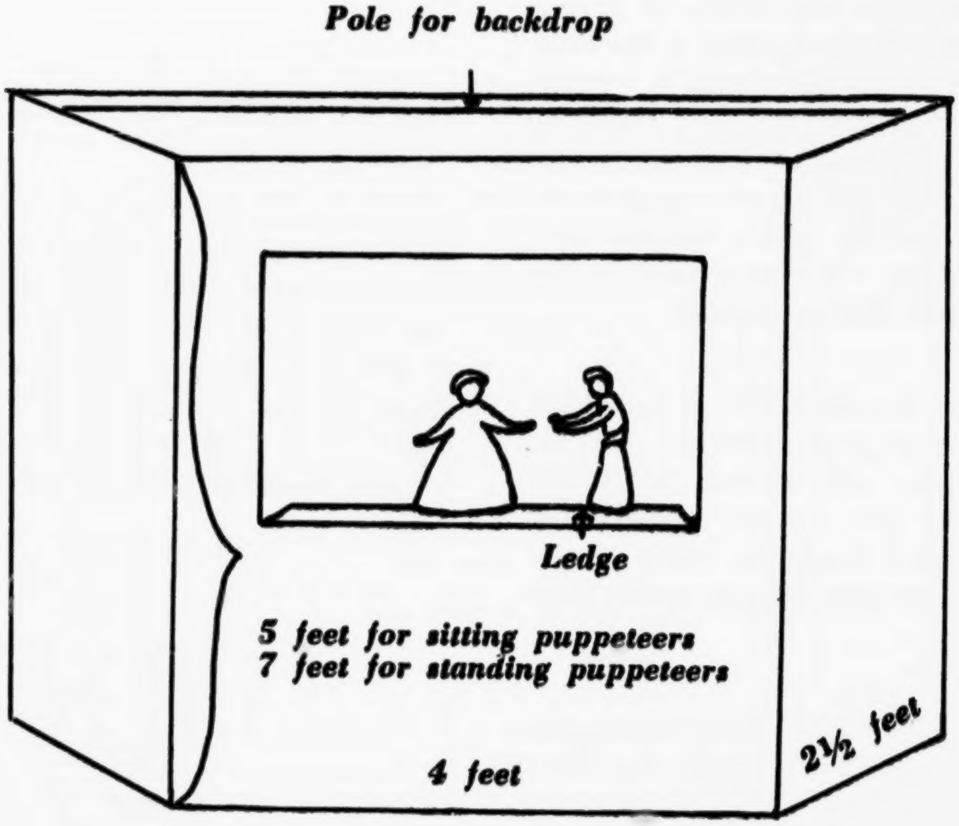
3. Cover the lower part of doorway so the puppeteers may stand.

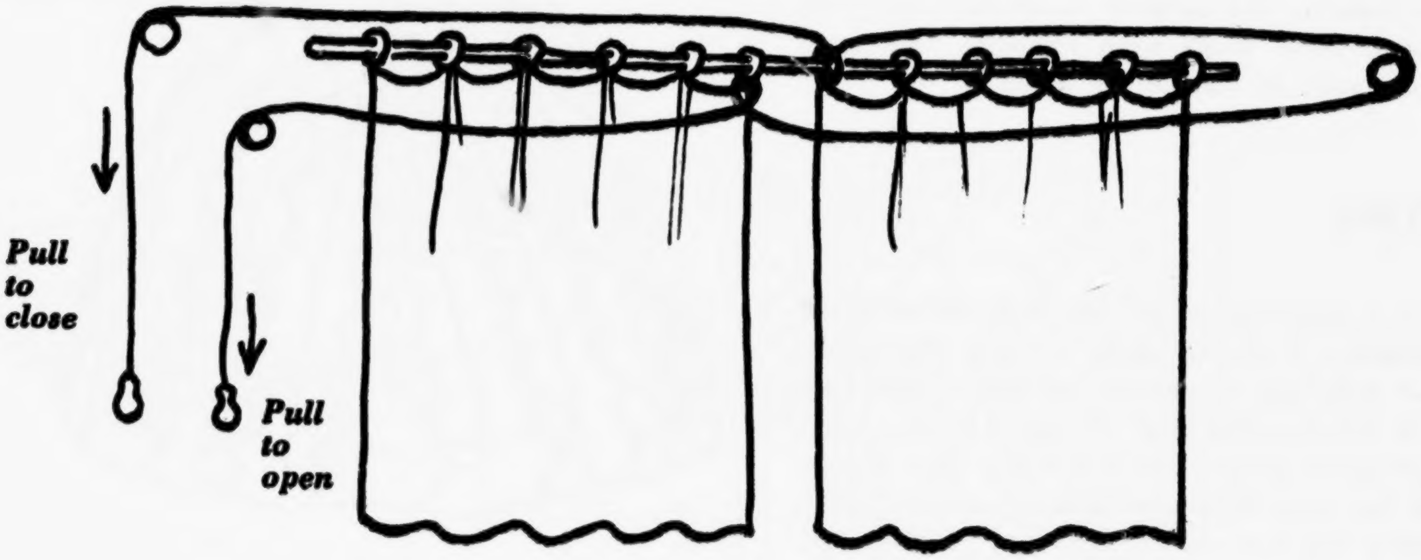



Slit cut for changes in scenery
Table
Table
Puppeteer
Hole cut on bottom of box

4. A stage may be made from a large TV or radio cardboard box resting on two tables. Cover front of tables and between tables with paper or cloth.

5. A screen stage may be made of wood and canec or entirely of plywood. Connect with hinges. Cut hole for stage. The ledge projects toward the puppeteer. Hang backdrop on pole at top. Measurements in diagram are approximate.


Pole for backdrop
Ledge
5 feet for sitting puppeteers
7 feet for standing puppeteers
2½ feet
4 feet


Pull
to
close
Pull
to
open

Curtains

HULA KI'I—HAWAIIAN PUPPETS

The puppets of early Hawaii were called marionettes by Nathaniel B. Emerson in his book "Unwritten Literature of Hawaii, The Sacred Songs of the Hula." However, they were not worked from above with strings. They were worked from behind a screen by the puppeteer who controlled the arms from under the holoku and talked for the puppet. The hula plays of the hula ki'i were traditional with words going back to ancient Hawaii. They may have originated from early Polynesia or further still in Asia, being brought to Hawaii by the first voyagers. The ki'i were used in performances for King Kamehameha III and his queen, Kalama, and by royalty succeeding them. They were used in the jubilee of King Kalakaua's fiftieth birthday.

These ki'i were about one-third life-size with head including features carved of a soft wood and eyes set with mother-of-pearl. They were dressed in holokus of tapa cloth. Later they were dressed in holokus of yellow cloth and one had a headdress similar to the Hawaiian helmet. The arms were hanging loosely from loosely from the body.

During the play, someone in the audience was singled out for ridicule which provided much merriment. There was a narrator who asked the ki'i questions about this person and the ki'i answered with nods, keeping the audience laughing.

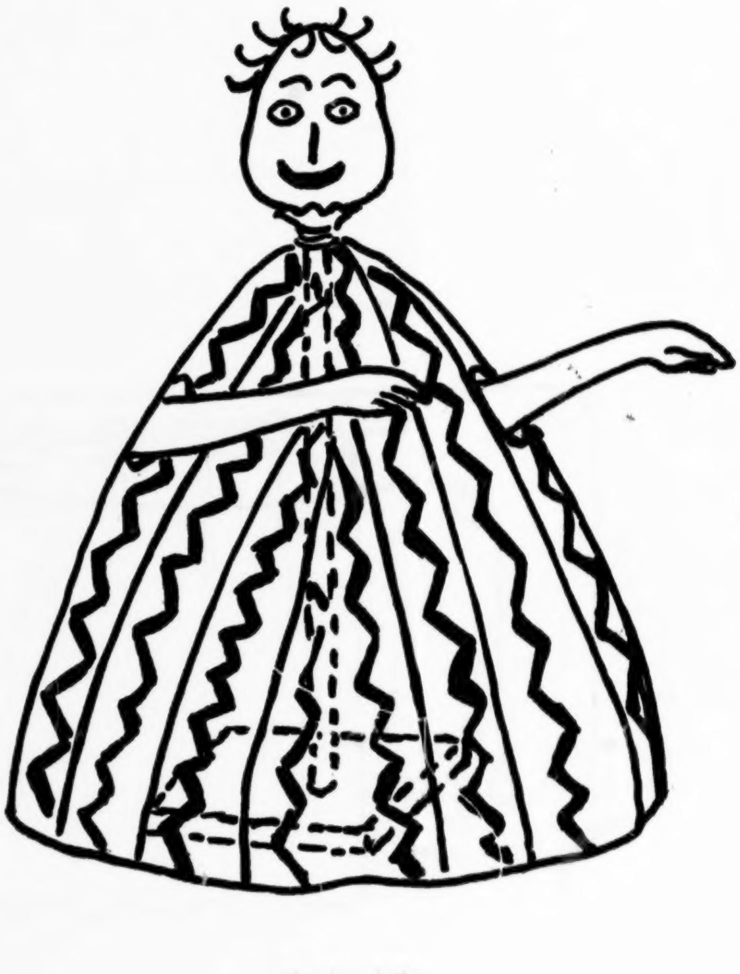
The ki'i plays and songs are described further in the book as somewhat like modern vaudeville with jibes and sarcasm. Some songs were symbolic. One song describes the vally of Kalalau on Kauai.

SUGGESTIONS

Replices of these ancient ki'i may be made for school performances or in the study of early Hawaii. A coconut with husk is used for the head with a hole bored in the stem end large enough to insert a piece of broomstick about three feet long. The broomstick is then inserted in a wooden base so the puppet will stand. The face may be carved or painted. Hair may be painted or fibers, yarn or string glued on the head for hair. Make a tapa holoku of crumpled wrapping paper and decorate it with a tapa design. Gather the top of the paper and attach it with glue and string to the broomstick where it is inserted in the coconut. Use the wrapping paper from the three foot roll and cut it about three yards long. Cut holes for arms. The child sits or kneels under the holoku, puts arms through the holes and does the sitting hula to the accompaniment of singing and/or the ipu or gourd drum.

PLAYS FROM HAWAIIAN LEGENDS

Original plays may be written by the keiki (children) puppeteers or adapted from legends of Hawaii with dialogue by the children in their own words. Plays about menehunes (elves) could be used for any number of ideas as good manners or good helpers. The ancient legends appeal to children and there are a great many which could be adapted. These plays may be adapted for any type puppet or marionette.



Hula ki'i

RESOURCES

The Code used for books is as follows:

*** — Recommended for school libraries**

# — Listed previously in Resources

L.H. — Library of Hawaii, Music and Art Room

A.A. — Honolulu Academy of Arts, Educational Department

A.D. — Studio of the Art Director

BOOKS

Allen, Betty. *Legends of Old Hawaii.* Honolulu: Tongg Publishing Company, c1959. A.D.

Colum, Padraic, *Legends of Hawaii.* New Haven, Connecticut: Yale University Press, c1937. L.H.

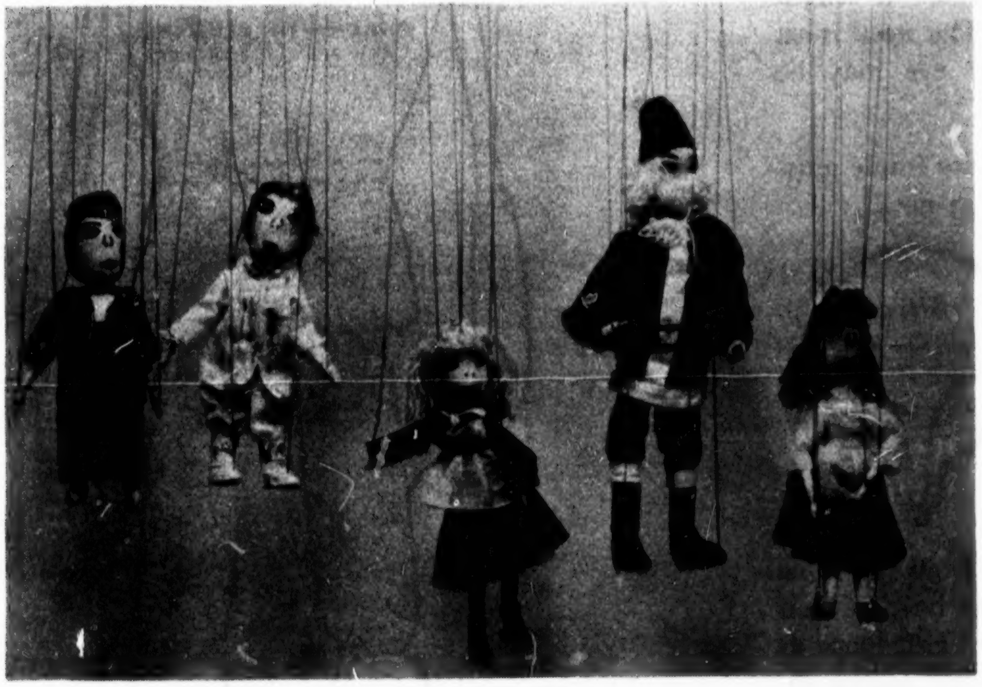
Emerson, Nathaniel B. *Unwritten Literature of Hawaii, The Sacred Songs of the Hula.* Washington, D.C.: U.S. Government Printing Office, c1909. Out of print. L.H.

Hawaiian Folk Tales, A Collection of Native Legends. Compiled by Thomas G. Thrum. Chicago: A.C. McClurg and Company, c1912. Out of print. L.H.

Piikoi and Other Legends of the Island of Hawaii. Collected by Mary Kawena Pukui. Honolulu: Kamehameha Schools Press, c1949. L.H.

Titcomb, Margaret. *Voyage of Ka Manu Lele, A Tale of the Discovery of Hawaii.* Honolulu: Aloha Books, c1956.

Water of Kane. Collected by Mary Kawena Pukui. Honolulu: The Kamehameha Schools Press, c1951. L.H.



Cloth Marionettes—Grade 5

MARIONETTES

Marionettes differ from other puppets in that the movements in marionettes are accomplished by manipulating strings attached to legs, arms and head. The other ends of the strings are attached to control sticks manipulated by the puppeteers above the stage. It is possible to have more varied and more natural movement than with hand puppets. It is even possible to make marionettes dance. They are harder to construct and operate than hand puppets and are better suited to older children and adolescents.

SUGGESTIONS

Allow plenty of time for gaining skill in manipulating.

Have leg strings only when very necessary. Learn to use the others first and then add leg strings.

Make full-sized sketches first so characters will be the right proportion in relation to one another and to the properties. From shoulder to feet allow about 1/3 of height for body (torso) and 2/3 for legs unless exaggeration is desired.

All joints must be flexible so the head, arms and legs may be easily pulled with the strings.

The figure must be light weight except feet, hands and base of the body.

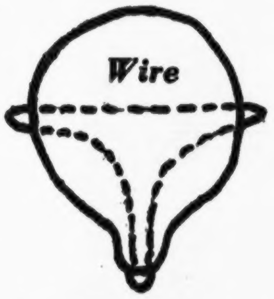
Keep the costume simple and loose of light weight material with a large neck and armholes for freedom of action. Sew seams only. Parts of costumes may be stapled or tacked to a wooden body or sewed to a cloth body.

A loop of twill tape or strong cloth must be attached to control sticks to hang marionettes. Never just put a marionette down. It must be hung up to avoid tangled strings.

VARIOUS METHODS OF MAKING HEADS FOR MARIONETTES

1. When using only one string at the top of the head, make solid papier-mâché head the same as for hand puppet. Use a dowel or piece of broomstick 3/4" in diameter by 3" in length instead of the hollow neckstall. The neck must be solid so that a small screw eye may be screwed into it.
2. When using two head strings, a wire frame must be made with loops at ears and at neck.

   Model pulp papier-mâché head over the frame with loops outside. See pulp head described for hand puppet.

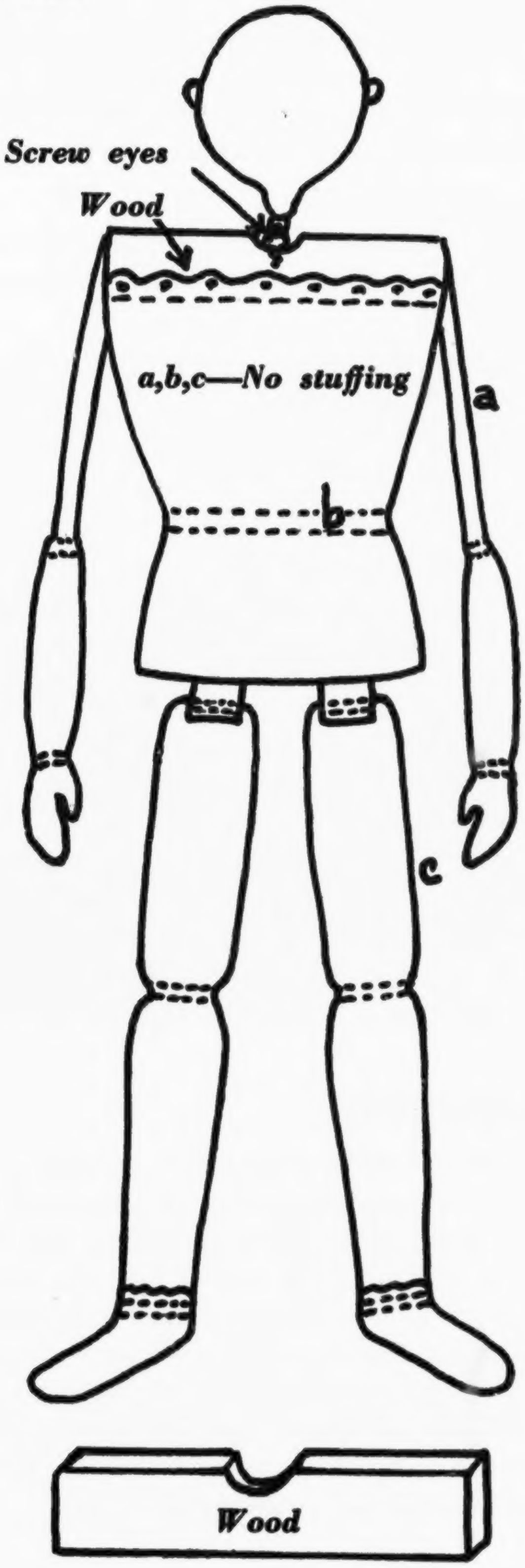


3. Make hollow strip papier-mâché head the same as for hand puppet. After cutting head in half including neck, insert wire frame with loops as in diagram. Hold wire in place by taping inside the front half of the head. Fill head with crumpled newspaper to make wire frame immovable. Fold a piece of newspaper several times, dip in paste and wind around the wire at the neck so the neck will be filled and solid when dry. Be sure the wire loop extends below the neck. Now put the two halves of the head together with paste-soaked strips over the joint.
4. Heads may also be carved from balsa wood or soft pine. Egg-shaped fishing floats make excellent heads. Add features to "float head" with a dough mixture of sawdust and wheat paste. Screw eyes can be screwed into the head at ears and neck for attaching strings.

VARIOUS METHODS OF MAKING BODIES FOR MARIONETTES

1. CLOTH BODY

   Cut paper patterns for body: torso, arms, legs, hands and feet, allowing extra width all around for seaming, stuffing with cotton batting and joining parts together. Cut mitten-shaped hands separately or as a part of the arm. Cut feet side view.



Fold cloth before cutting so all parts will be double. After sewing, turn inside out, leaving top open for inserting stuffing.

Place cardboard cut like the sole of a shoe in bottom of foot. Then weight with lead weights. Put weights in hips of torso and in hands.

The arm from elbow to shoulder "a," torso at waist "b" and legs from knees to hips "c" should not be stuffed. These places are left limp and stitched with two rows of stitching. However, some prefer to stuff body and ankles solid.

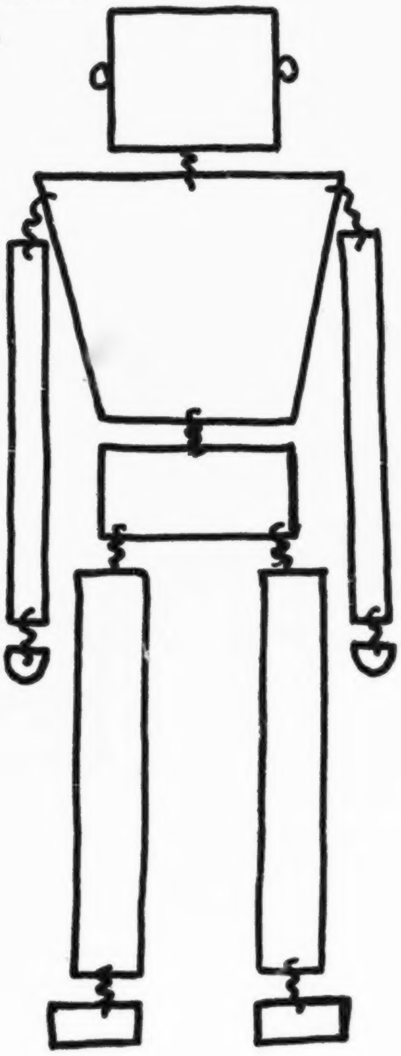
To reinforce shoulders, insert a piece of wood horizontally at the top of torso by tacking with small carpet tacks.

This wood serves as a base for attaching head to body. Open small screw eye with pliers, screw it into the wood, attach it to wire loop or screw eye at neck and then close screw eye again.

Stitch feet to legs and hands to arms with two rows of stitching. Attach legs to hips with tape.

Cloth bodies are necessary when short clothes are worn by characters. They may be padded to suit the characters.

2. WOOD BODY

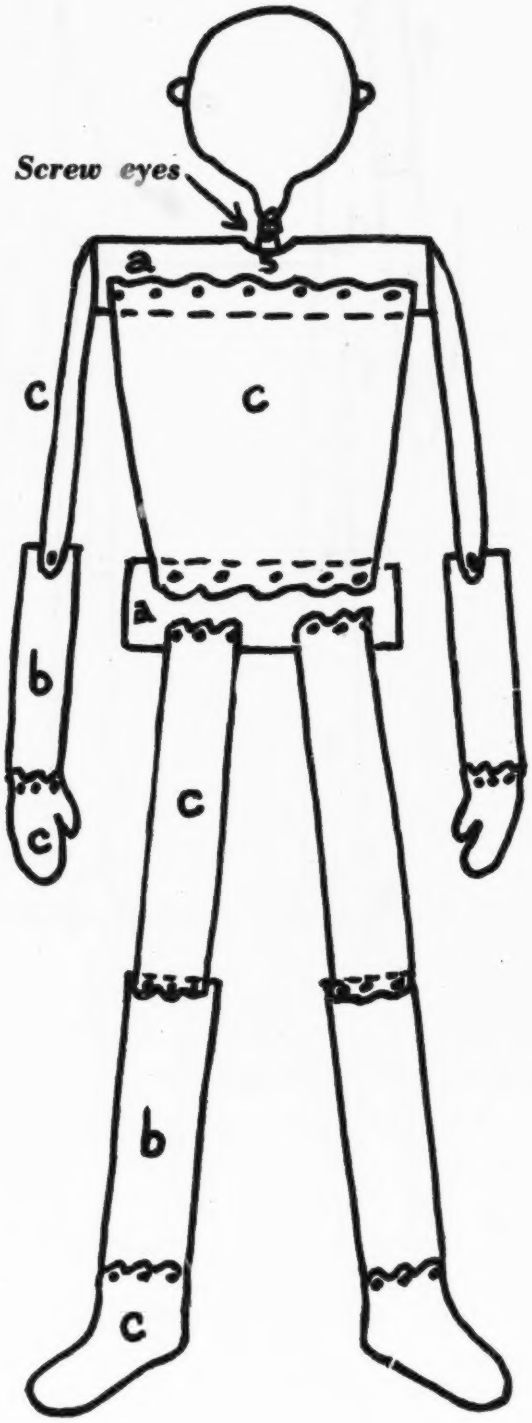


A wood body may be made entirely of scraps of wood including dowels. The parts may be joined by springs, screw eyes, leather or heavy cloth strips. The parts may be any shape. Decorate as desired.

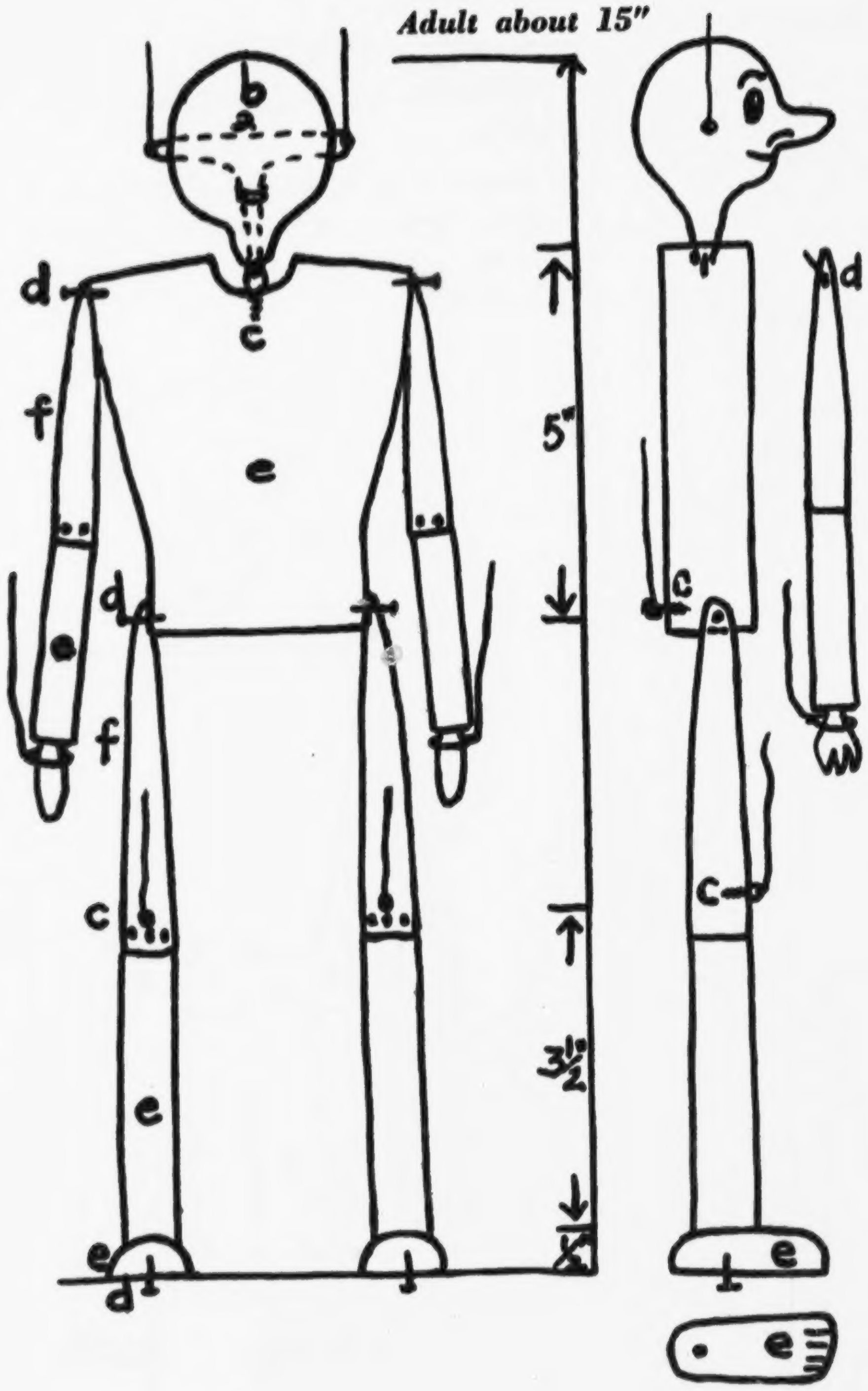
3. WOOD, DOWEL AND CLOTH BODY

Tack cloth to wood and dowels with small carpet tacks.

Attach head to wood shoulder with small screw eyes. Open one screw eye with pliers, insert in the other, then close. This permits the head to move.



4. WOOD AND CLOTH BODY



Head: papier-mâché, built on wire frame with features exaggerated

Body: wood, padded with cotton and cloth as desired

Torso: one piece or two pieces joined together by cloth at the waist allowing more flexibility

Upper arms and upper legs: cloth (no stuffing) allowing free movement

Hands: wooden spoons or forks

Feet: wood or round dowel

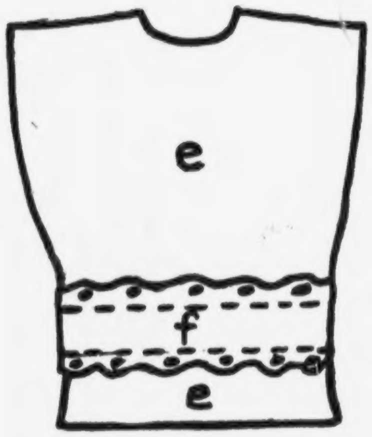
Tacks at shoulder, hip, feet and for attaching cloth to wood

Screw eyes at neck, hip and knee

Strings attached to ear loops, wrists, hips and knees

Weights attached to back at hips

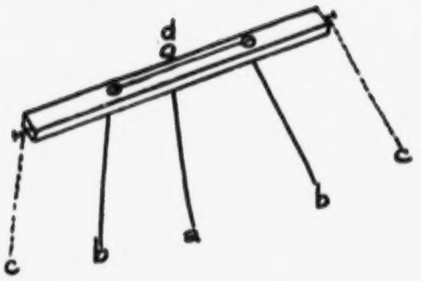
a. Wire
b. Papier-mâché
c. Screw eyes
d. Tacks
e. Wood
f. Cloth



CONTROL STICKS

1. For a three string marionette use a piece of wood about 1" wide and 1/4" or 3/8" thick.

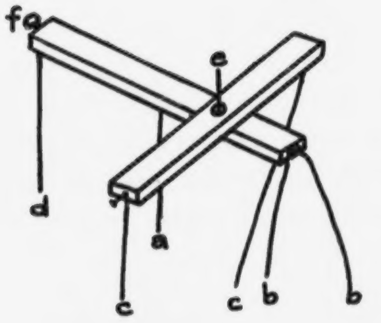
   The hand string is continuous, placed through two holes bored in the wood. Tie head string to tack under center of stick. Place a large screw eye placed on side of bar to hang marionette for storage.



   a. To top of head
   b. To hands
   c. To legs
   d. Screw eye

2. For a five string marionette use the same bar as above and, in addition, tie strings to tacks on each end of the piece of wood. These strings are attached to the legs just above the knees.

3. For a six string marionette the control stick has a short bar that fits over a finishing nail driven into the longer bar. The string for hands is continuous, passing through a double-pointed tack at front end of cross. A large screw eye is placed at the end of longer bar for the string that goes to lower part of back. Use this screw eye to hang the marionette for storage.



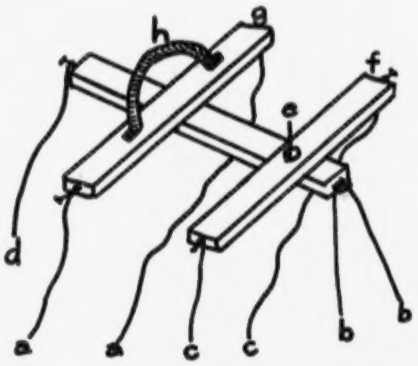
   a. To top of head
   b. To hands
   c. To legs
   d. To center of lower part of back
   c. Hole and nail
   f. Screw eye

4. For a seven string marionette

   Nail one piece of wood about 8" long over another about 10" long to form a cross. Attach strings to tacks at each end of this bar for the two head strings. Tack a handle of twill tape or strong cloth on top of the stationary bar. It is most important and is used for suspending marionette to avoid tangled strings during storage.

   At far end of cross place a double pointed tack. Through this tack pass a continuous string to be attached to hands.

   The leg strings are attached to the removable bar 8" long with a hole bored in the center. This bar fits over a finishing nail driven in the 10" bar about 1½" from the double-pointed tack at the front end.



   a. To loops at side of head
   b. To hands
   c. To legs
   d. To lower part of back
   e. Hole and nail
   f. Removable bar
   g. Stationary bar
   h. Handle for storing

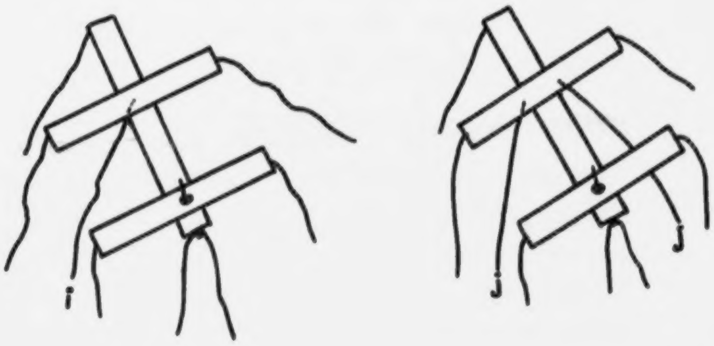
5. For eight or nine string marionette the control stick is the same as for a seven string marionette.

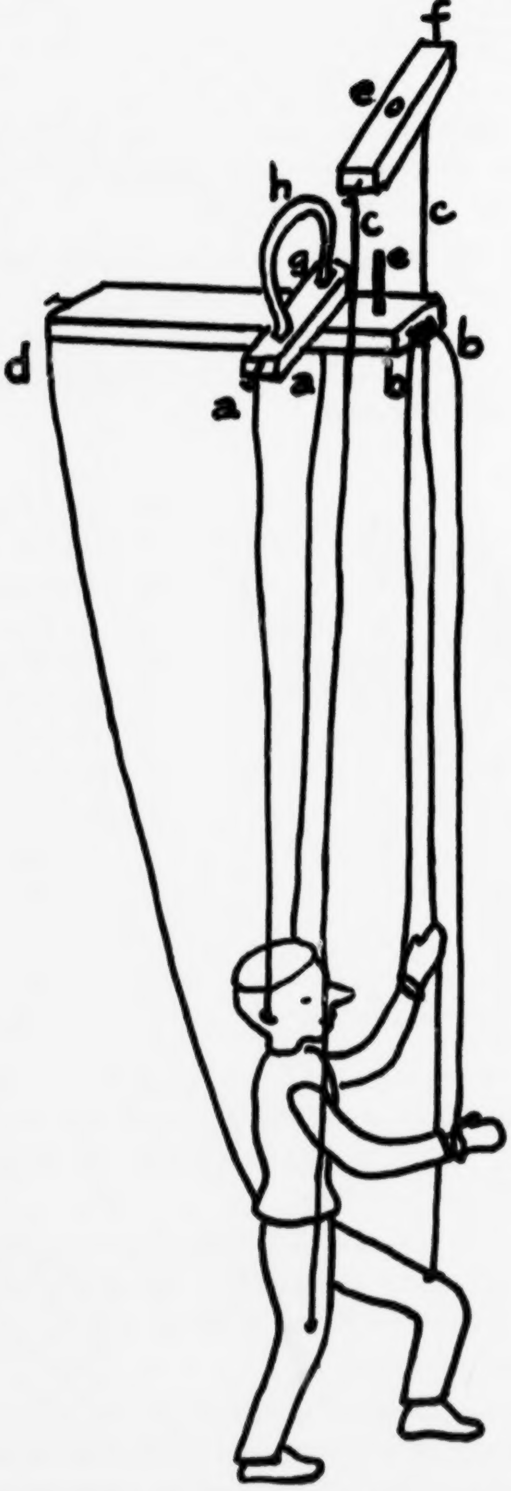
   For extra large marionettes one or two shoulder strings may be needed for right and left movement of the body and to help the head string support the weight.

   For only one shoulder string tie to tack placed under center of stationary bar and then fasten through costume to body at center of upper back.

   For two shoulder strings tie to two tacks placed a couple of inches apart under center of stationary bar. Then fasten through costume to body on either side at the back of shoulder.

   i. To center of upper back
   j. To shoulders at back





STRINGING THE SEVEN STRING MARIONETTE

After the costuming is completed, check the marionette to be sure tacks or screw eyes have been placed in the body for attaching strings.

String the marionettes with heavy black thread or fishing line. This requires two persons. If using thread, wax all strings.

Remove leg bar from cross.

Measure length of string needed for head strings. This holds the marionette. Tie to tacks on either end of stationary bar and to loops at each side of head while holding the control sticks level and the marionette standing in an upright position. These strings should be long enough so the hands of the person manipulating will not be seen.

Tie string to tack placed at back end of control stick. Tip back of control stick slightly down and measure length needed. Fasten the other end through costume to the center of lower back, holding marionette erect. This is the back string.

Fasten string to palm of one hand, to the wrist or to thumb of marionette. Run it through double pointed tack at front end of control stick down to the palm of the other hand and fasten. Allow enough string so hands hang loosely at sides of marionette.

Tie leg strings to tacks on either end of removable bar. Measure and fasten through costume to leg just above the knee. Check to see if the marionette can sit.

STRINGING THE EIGHT OR NINE STRING MARIONETTE

Follow directions for the seven string marionette for head strings.

Then attach shoulder strings right after placing head strings. Tip control stick slightly, measure and fasten **string** or **strings** to tacks on bar and through costume to shoulder. Keep marionette erect. After this place string on back of torso and attach strings to hands and legs as above.

MANIPULATION

Practice manipulation before using dialogue. Then practice timing movements to words. Start moving the marionette a little before speaking the words because of the slow movements of marionettes. Keep the marionette moving to keep the attention of the audience on the speaker. At other times it should remain motionless.

ANIMAL, BIRD OR SEA LIFE MARIONETTES

Flat silhouettes may be cut of cardboard, plastic or wood. See section on Shadow Puppets.

Heavy paper or cloth may be used. Cut double, stitch and stuff. For flexibility needed for movement, do not put stuffing at neck or upper part of legs.

Carve figures from balsa or other light weight wood. Attach movable parts.

Make hollow papier-mâché figures.

Make figures of paper in three-dimensions with movable parts.

Use imagination in the use of color and decoration.

Attach figures to control sticks with heavy black thread or fishing line.

PROPERTIES

Three-dimensional properties should be kept to a minimum. When possible, paint them on the backdrop.

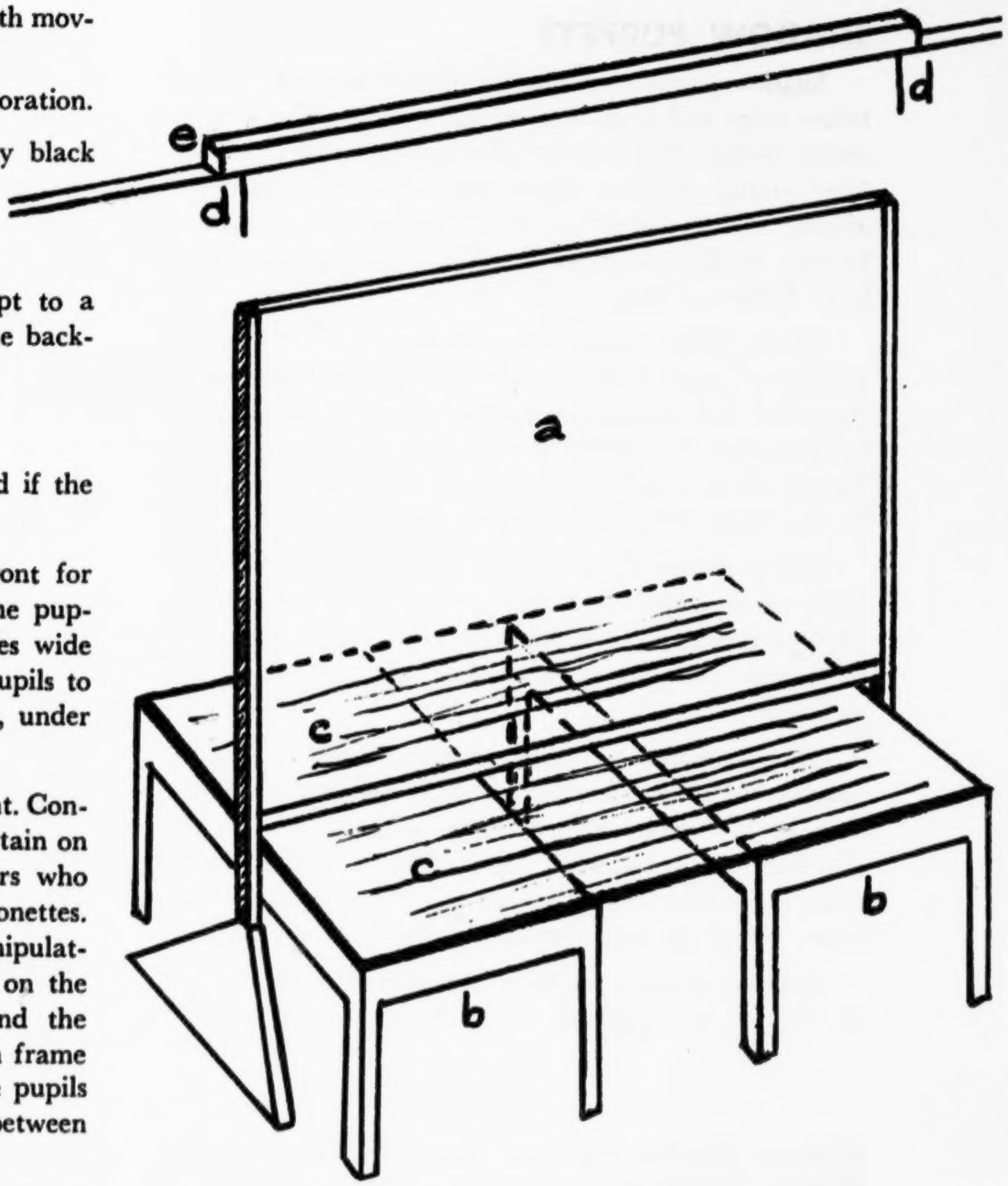
MARIONETTE STAGE

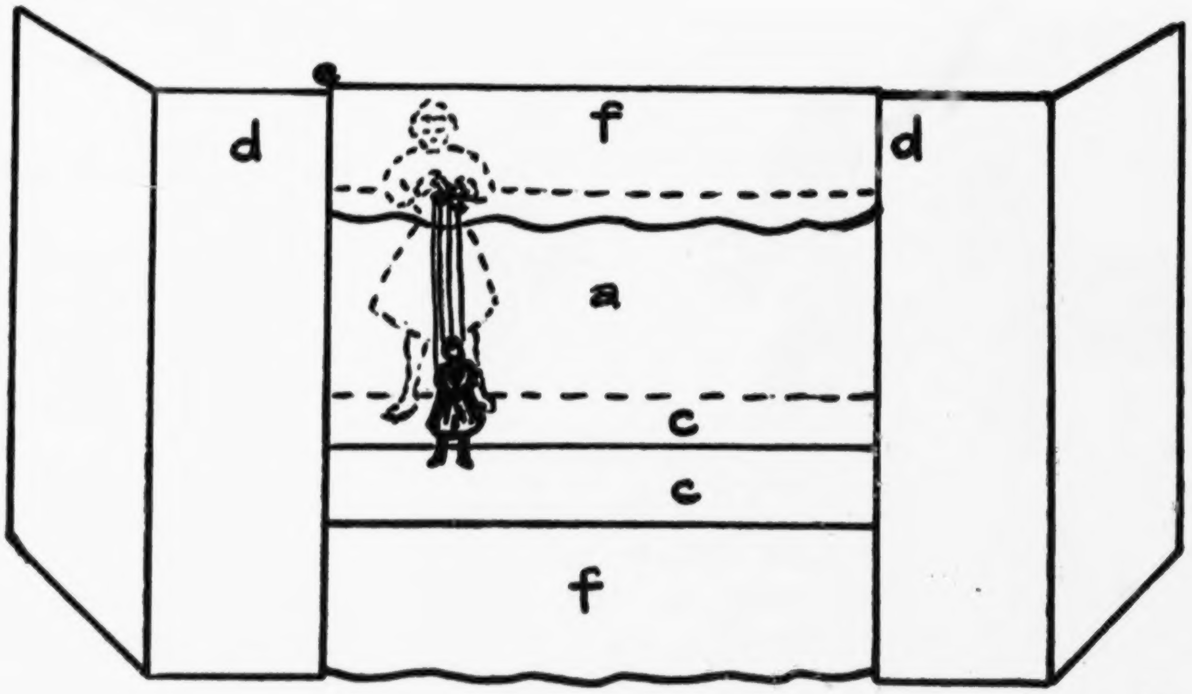
Make a frame or use a movable blackboard if the blackboard is not too high.

Place primary tables so they project in front for stage and in back for a place on which the puppeteers stand. Place wood planks over tables wide enough for the stage in front and for the pupils to stand on in back. Cover the table in front, under stage, with cloth or paper to hide them.

Place two screens at either side of stage in front. Connect them by a wood bar at top. Hang a curtain on the bar long enough to hide the puppeteers who are standing and manipulating the marionettes. Screens must be wide enough so persons manipulating may enter and remove the marionettes on the sides between the frame or blackboard and the screens. Screens must be enough higher than frame or blackboard so the heads and arms of the pupils will be hidden by the curtain hanging between the screens.

Other types of stages may be found in books listed under Resources.





MARIONETTE STAGE

a. Frame or blackboard
b. Table
c. Plank
d. Screens
e. Wood bar
f. Paper or cloth

SHADOW PUPPETS

Shadow puppets are usually silhouettes worked from below stage and held close to the screen so that a light placed behind the puppets may produce the shadows. Very young children enjoy having someone form an animal with the hand to form a shadow on the wall. Human shadow plays are fun also. The characters perform behind a large sheet.

Kindergarten and primary children may make stick puppets of oaktag with or without separate parts moving which can be used as shadow puppets. Oaktag may be oiled with a mixture of 2 parts turpentine to 1 part linseed oil so it will be semitransparent after painting it. See Stick Puppets previously described.

Older children, adolescents and even adults may make more complex shadow puppets like the ancient Chinese produced. The Chinese used oiled paper and parchment and later used donkey skin, sheepskin, and camelskin.

Plastic sheets may be purchased and used for shadow puppets, or x-ray film discards may be used. Soak the film in hot water and washing soda to remove the emulsion. After roughing the surface with sandpaper, using a circular motion, paint the plastic or film with water colors, thinned poster paint or colored inks.

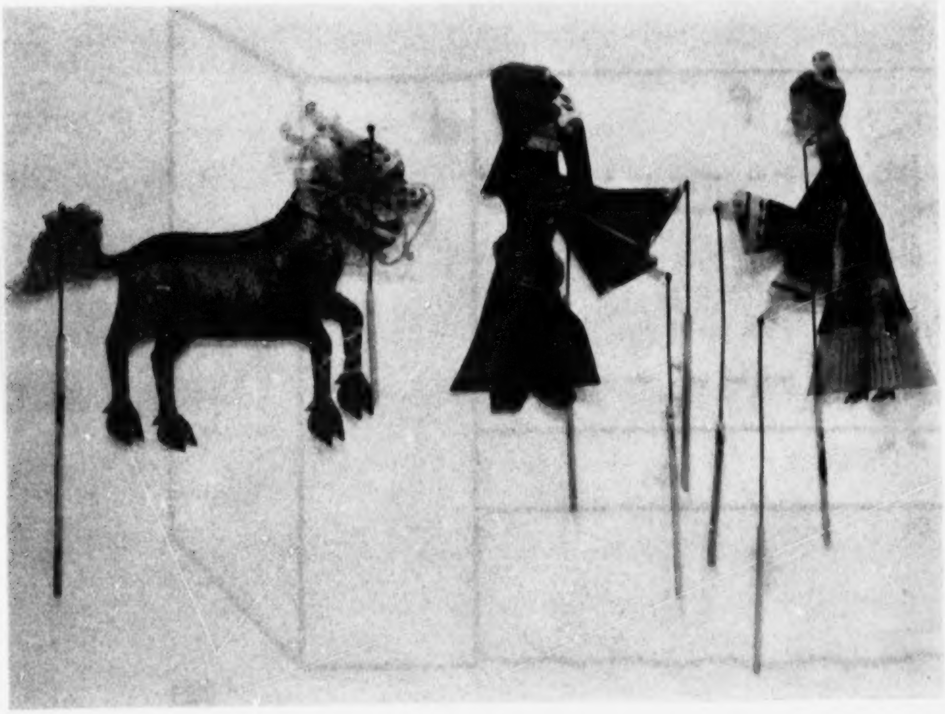
Shadow puppets made of transparent material may be flat or be combined with other materials such as tissue paper, cellophane, thin silk, net, wire mesh, yarn and native materials. Keep them as flat as possible.

Figures are usually in profile. Humans are made in a straight line (vertical) with all jointed parts hanging straight.

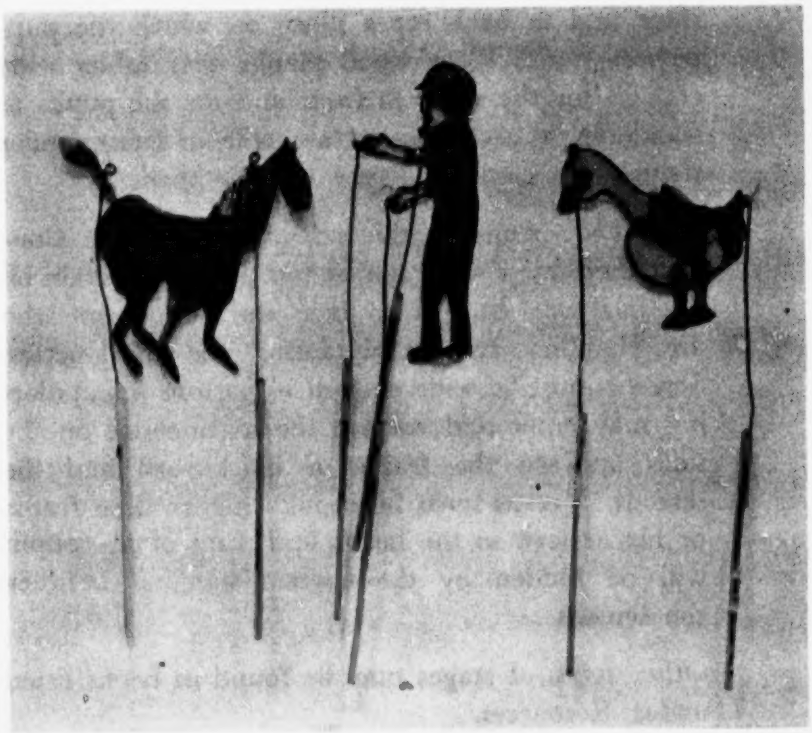
Take liberties in size of animals in proportion to size of people.

The dialogue is usually between two figures at a time.

Chinese Shadow Puppets from the Lending Collection, Honolulu Academy of Arts



Plastic Shadow Puppets—Ages 9 and 10



EQUIPMENT AND MATERIALS

Plastic sheets, 20/1000 of an inch gauge, parchment or discarded X-ray film
Transparent water colors, Higgin's colored India ink or thinned poster paint
Black wax crayon
No. 18 spring steel wire, thin but rigid or bailing wire
Dry cat tail reeds or tiny bamboo for handles to hold the wire
Buttonhole twist or carpet thread, black or white
Lacquer Needles (large eye) Pliers Scissors
Sandpaper, coarse and fine

PROCEDURE

Draw and cut a thin cardboard or heavy paper dummy with all the separate parts. Poke hole with needle at joints and fasten parts together with French knots as in diagram. This is to check if parts are properly drawn and cut so they will work. If any part needs correction, cut a new one. Then cut off French knots to separate all parts of figure for patterns.

Sandpaper plastic thoroughly in a circular motion on one side so it is rough and looks frosted.

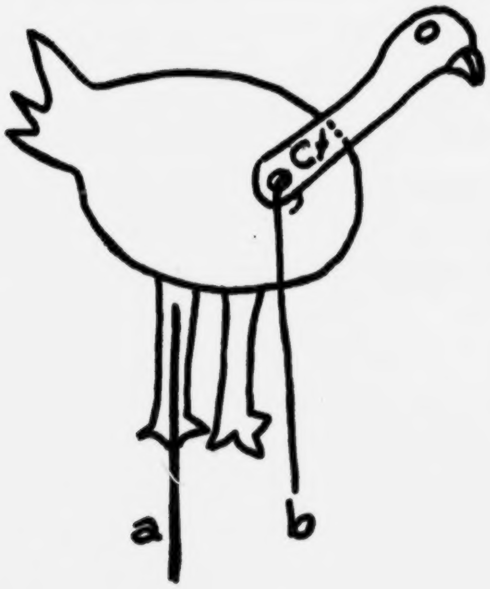
Slip parts of dummy under plastic and trace with pencil. Cut plastic with scissors. Paint as desired. Use large areas of one color with very little design. Flow color on rough side of plastic. Outline parts with black ink or wax crayon so figure will show sharply against screen. When dry, apply two or three coats of clear lacquer put on thinly so plastic will not warp.

To join parts, poke a hole with a hot needle, pass thread through plastic and make French knots on both sides of joint. Leave enough play for joints to move freely.

OPAQUE COLORED FIGURES CUT FROM OAKTAG

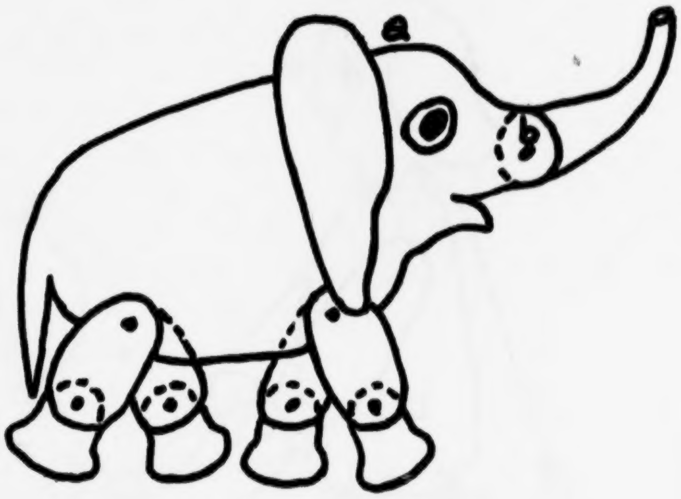
Arms, legs and heads of animals and people may be moved in this way by joining with small brass paper fasteners to the body. Paint as desired. When dry, oaktag may be oiled with linseed oil diluted with turpentine and it will resemble parchment.

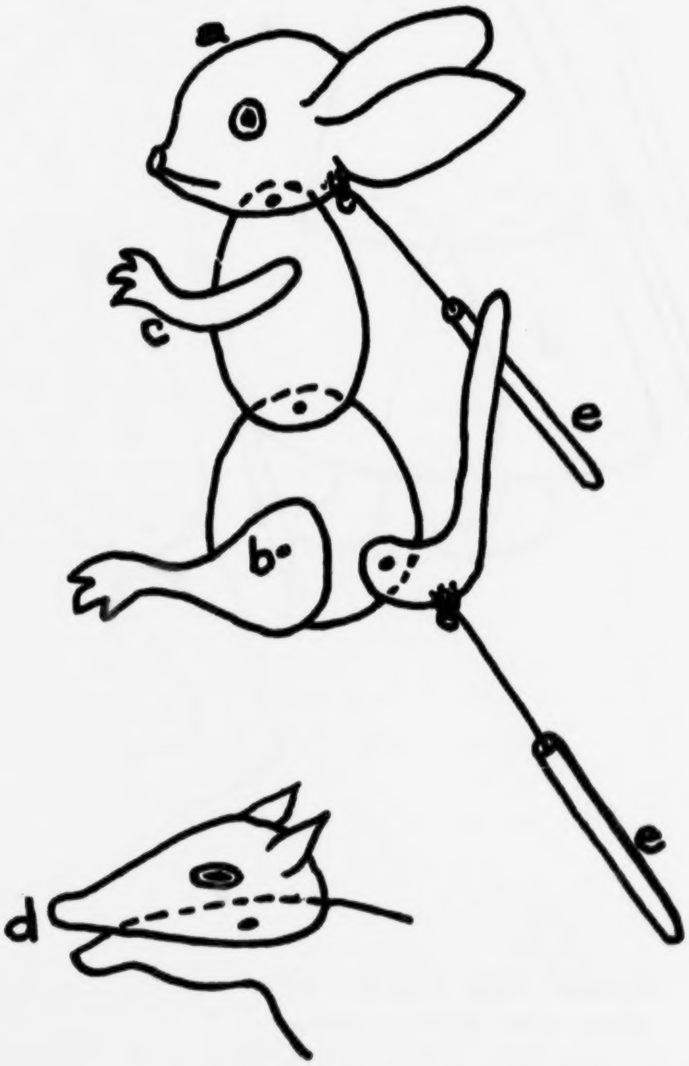
a. Stick fastened with stapler or tape
b. Wire through hole for moving head
c. Brass paper fastener for joint



TRANSPARENT COLORED FIGURES CUT FROM PLASTIC

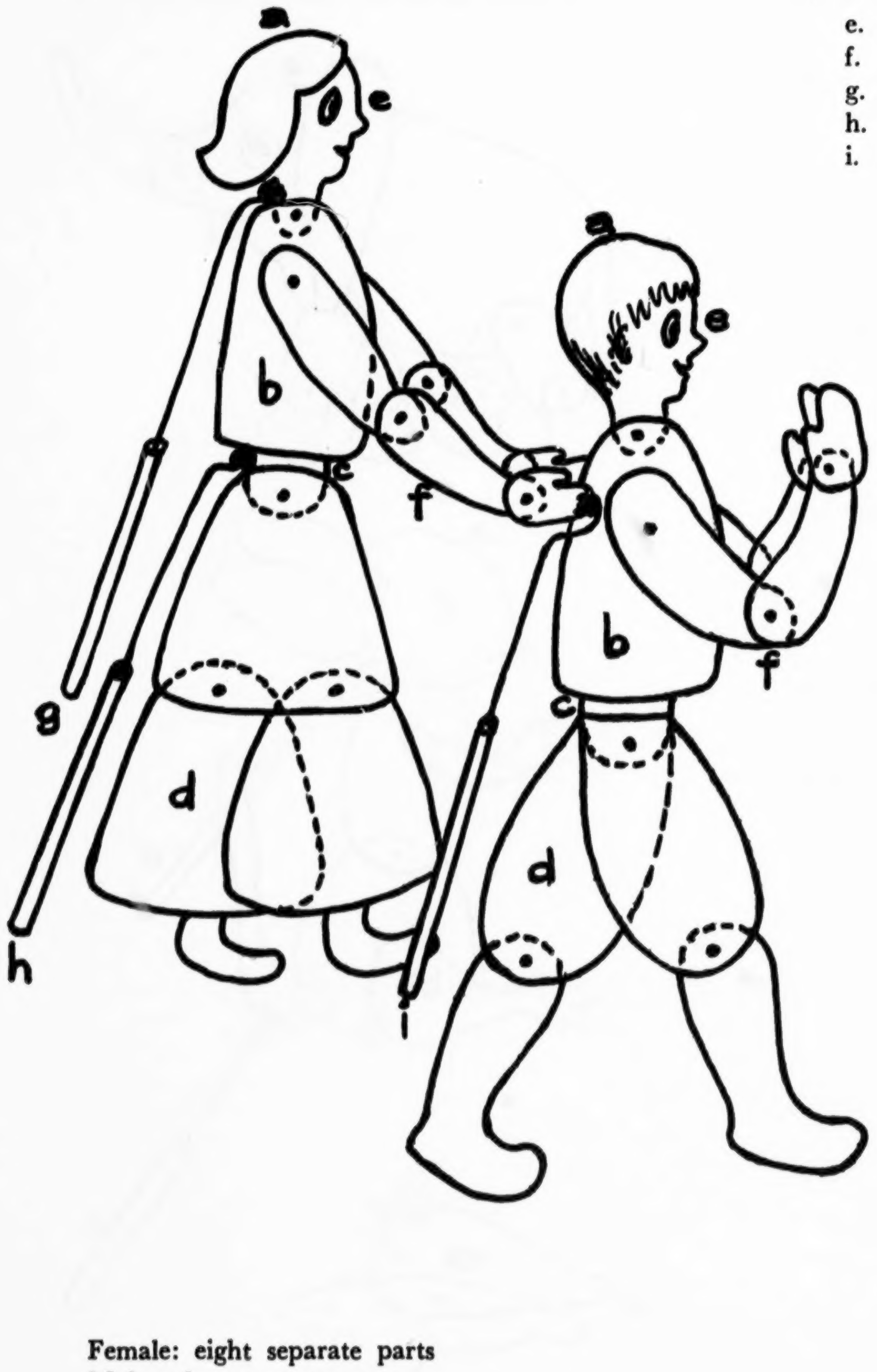
a. Head and ears exaggerated
b. French knots for joints
c. Reverse curves in legs giving animation
d. Movable mouth on animal
e. Control sticks for moving head and tail

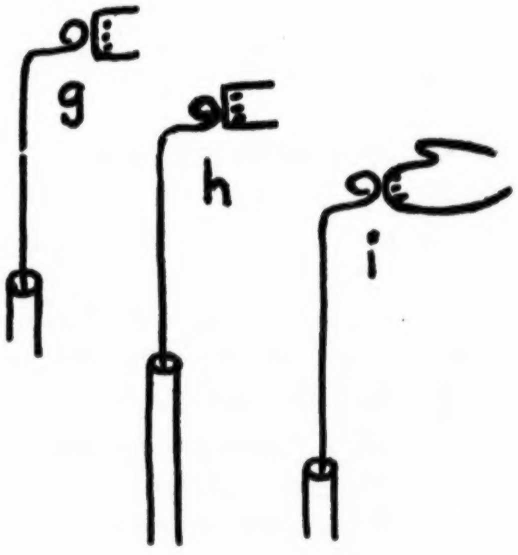




Black dots: French knots of buttonhole twist or carpet thread on both sides of holes for joints; or small brass paper fasteners.

a. Head and neck with overlap
b. Torso with overlap, upper part not too wide (for good control)
c. Width of waist: diameter of circle
d. Skirt sections on female and legs on male with overlap (bottom of skirt usually split and overlapping for more movement)
e. Exaggerated eyes
f. Arms long for ease of manipulation
g. Neck control
h. Waist control
i. Hand control





Female: eight separate parts
Male: nine separate parts
Curved lines in figures help them to sit down better
Curves on toes rock when figures are kneeling and make figures easier to manipulate.

CONTROLS

For human figure at neck, hand, and waist: Length of wire and handle of reed or tiny bamboo should be long enough so hands of person manipulating will not show, but not too long. Bend wire and form a very small loop on the end about 3/16" in diameter. Punch three holes in side of neck with a hot needle. Sew loop of wire to neck tightly through holes with buttonhole stitch. Repeat for waist control. Sew control to hand loosely.

MANIPULATION

Hold figures close against screen. They can move only from right to left and vice versa. If a fuzzy indistinct shape is desired, the puppet may be held back and away from the screen. Avoid jerky gestures and repetition of the same gesture.

SCENERY FOR SHADOW SCREEN

Paint scenery on plastic or tracing paper. Then lacquer on both sides and cut it out. Attach to screen, leaving space in center free of scenery so figures may be seen clearly. Or paint trees or other forms on both sides of the screen for a black silhouette. Paint on one side only for distant hills and objects. Use water color or diluted poster paint.

LIGHT BEHIND SCREEN

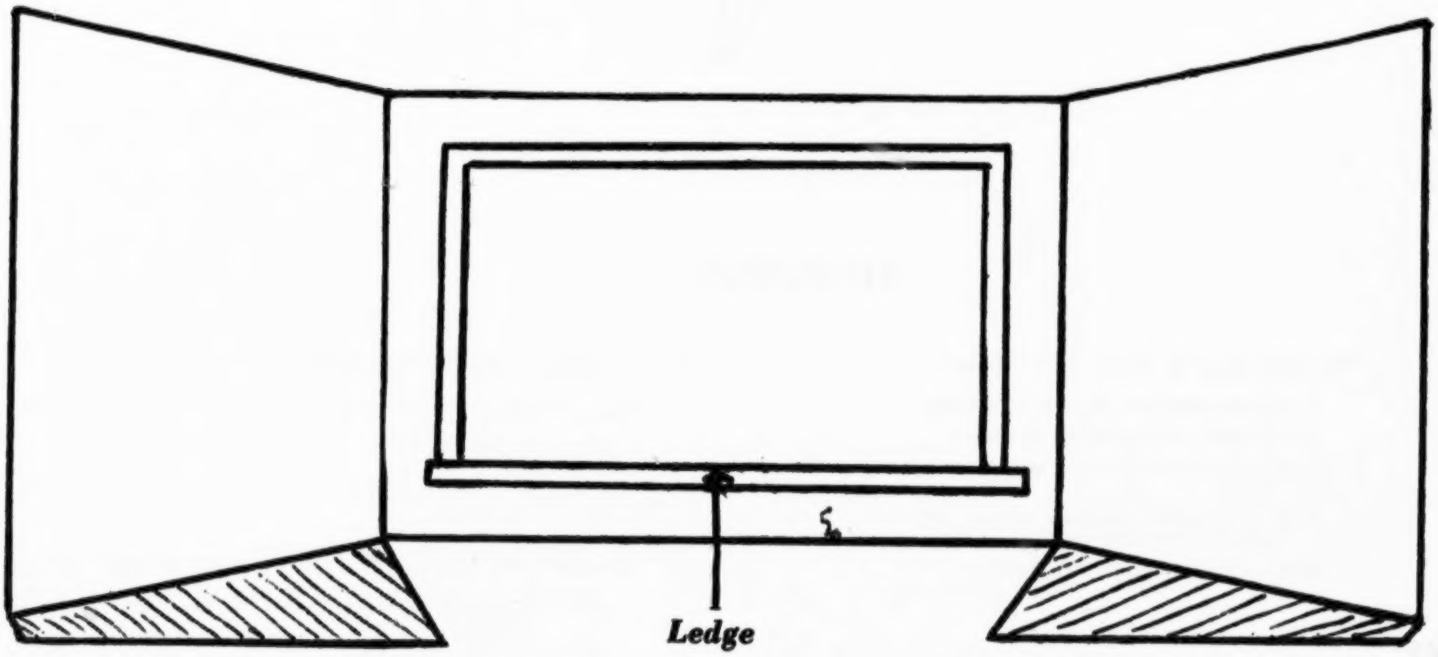
Place a 100 to 500 watt globe, not frosted, with light reflector six feet behind screen so light will just cover screen. This will be only one source of light and this will be a floor lamp or table lamp placed on a stool. It should be high enough so light falls down on screen and casts shadows of puppeteers down to the floor.

Color can be thrown on the screen by placing a sheet of colored gelatine over the reflector.

SCREEN FOR SHADOW PUPPETS

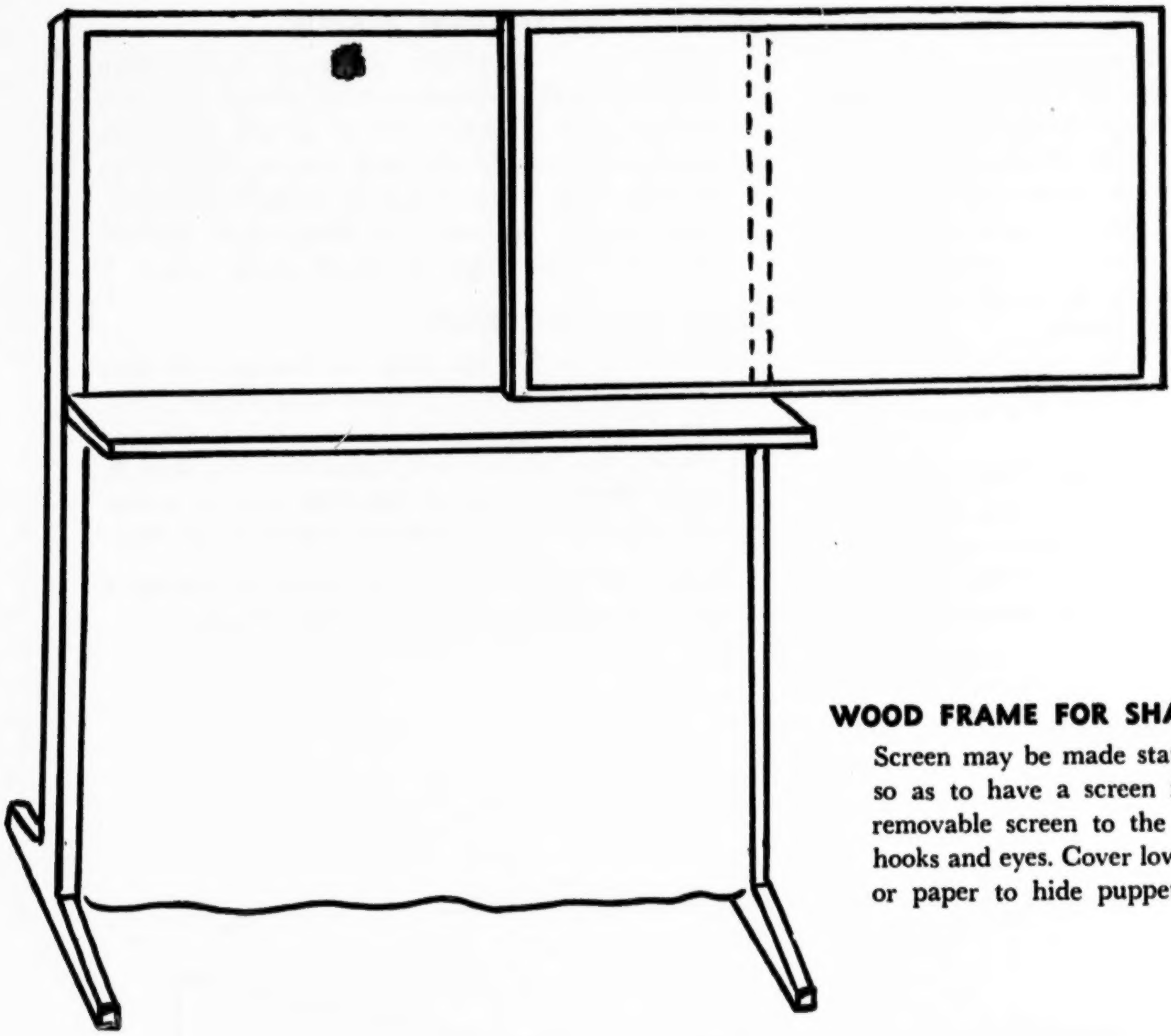
Screen may be simple or elaborate.

Back of simple screen cut from large cardboard box



The ledge is a floor on which to stand the puppets. The opening may be covered with tracing cloth, tracing paper, muslin or nylon. Tape, tack or staple the material to cardboard or wood frame.

The height and width of screen is determined by size of puppets. Height is two times the size of figures. Width is four times the size of figures. For an 8" figure, screen would measure 16" x 32."



WOOD FRAME FOR SHADOW PUPPETS

Screen may be made stationary or made removable so as to have a screen for each scene. Fasten the removable screen to the wood frame at sides with hooks and eyes. Cover lower part of frame with cloth or paper to hide puppeteers.

RESOURCES

The Code used for books is as follows:

*** — Recommended for school libraries**
# — Listed previously in Resources
L.H. — Library of Hawaii, Music and Art Room
A.A. — Honolulu Academy of Arts, Educational Department
A.D. — Studio of the Art Director

BOOKS

Elementary

*Jagendorf, Moritz. *The First Book of Puppets.* New York: Franklin Watts, Inc., c1952. A.A., A.D.

Lewis, Roger. *Puppets and Marionettes.* New York: Alfred A. Knopf, c1952. A.A., A.D.

Elementary and Secondary

*Batchelder, Marjorie and Comer, Virginia Lee. *Puppets and Plays, A Creative Approach.* New York: Harper and Brothers, c1956. L.H., A.A., A.D.

Lanchester, Waldo S. *Hand Puppets and String Puppets.* Peoria, Illinois: Charles A. Bennett Company, Inc., c1949. L.H., A.D.

Mills, Winifred H. and Dunn, Louise M. *Shadow Plays and How To Produce Them.* New York: Doubleday, Doran and Company, Inc., c1938. L.H.

Seager, Donald W. *Marionettes.* New York: Studio Crowell, Inc., c1952. L.H., A.D.

FILMS

Grade Level	Title	Color	Time
K-6	ABC of Puppet Making #1	B & W	11 min.
K-6	ABC of Puppet Making #2 Making sock puppets, stage and Christmas Play	B & W	10 "
1-8	Let's Make Puppets Simple papier-mâché method	B & W	10 "
4-12	How to Make a Puppet Hollow head—plasticine foundation	Color	13 "
5-12	Puppetry, Stringed Marionettes	B & W	10 min.
5-12	Chinese Shadow Play	Color	11 "

FILMSTRIPS

Grade Level	Title	Color	Frames
2-12	Puppet Bodies and Costumes	Color	24 frames
4-12	Puppet Heads and Hands	Color	25 "
Teachers	Puppet Stage and Scenery	Color	22 "

THEATER CRAFT

Primitive man from the past to the present time has adorned himself with paint, masks and other materials, combining ritual with the dance. The ancient Egyptians used religious pageants, but the Greek performances were probably the beginning of drama as it is thought of today with a theater and plays written by famous poets and writers. Some of these plays, including both comedy and serious drama, are still being produced. Masks representing gods, animals and people have played an important part down through the centuries. They are still used today in religious festivals in many countries and have been revived in modern drama.

The drama in the Orient has been largely traditional with elaborate costumes and stylized motions and dances. There were no stage sets and properties were carried on and off stage by property men while the characters performed. The Kabuki Theater in Japan still performs in the ancient tradition. Make up is elaborate and fantastic, resembling a mask. Costumes are very beautiful and exaggerated.

In Europe, during early Christianity, plays were condemned by the church. In medieval times, the minstrels and traveling shows led the way to theaters and organized productions. They became extravagant in costume and settings. The nobility had private theaters, some of which may still be seen in Europe today as museums. The ballet and opera evolved, and the theater combined the elements of all the arts: music, literature, architecture, sculpture, painting, the dance and dramatics including speech.

Today in modern drama, sets and costumes are simpler and reflect the mood of the play. Costumes and sets, even though often exaggerated, are designed for a harmonious, unified production. Lighting is also important in carrying out the mood and feeling of the performance.

VALUES

Theater craft:

Incorporates so many of the arts and crafts in one production that varied interests and abilities of students may be developed. Some students may act, some may design and construct costumes or sets and others make posters and programs.

Appeals to the very young and students of all ages.

Develops imagination and creative power to a high degree.

Affords opportunity to engage in fantasy which is needed at all ages as relaxation from tensions of modern life.

Makes for better theater and develops appreciative audiences for the future.

Offers opportunity of working together for a common goal.

KINDERGARTEN TO GRADE 6

When children engage in spontaneous, informal creative dramatics in the classroom, there is no need for costumes and stage sets. However, there are occasions when they wish to create dialogue and perform in a more formal way for an audience. This calls for costuming and constructing simple scenery and sets. Even though very simple, a costume helps a child to identify himself with the character portrayed. It gives the shy child confidence. The children can and should make their own costumes. They are satisfied with only a hat and cape, because they look on costumes as symbols and do not require costumes to be complete. If teachers or parents make them, children are deprived of a challenging and valuable educational experience.

COSTUMES

More imagination and ingenuity are required when materials are limited. Squares of cloth and scarves can be used in various ways: to tie around the head, throw over the shoulders or wrap around for a skirt.

Since most of the performances are presented only a few times, the costumes may be made of newspaper, crepe paper, wrapping paper, burlap sacks, old sheets or unbleached muslin. Sheets and muslin can be dyed with cold water dyes. Discuss appropriate colors to be used.

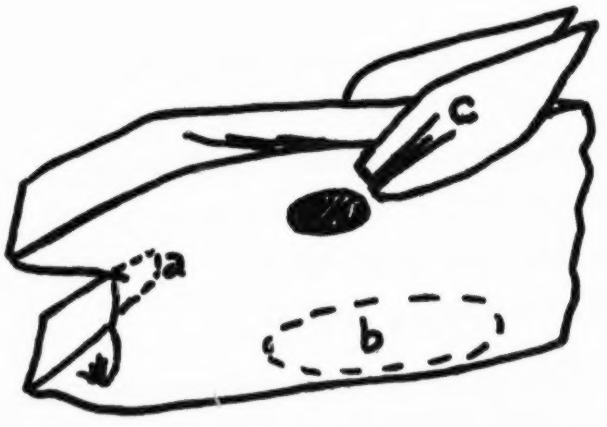
Materials may be decorated by coloring with poster paint or wax crayon and by stenciling or stick printing.

Younger children can staple costumes and older children can staple, baste or stitch. It isn't necessary to finish edges by hemming unless the material ravels. Hems can be stapled.

MASKS

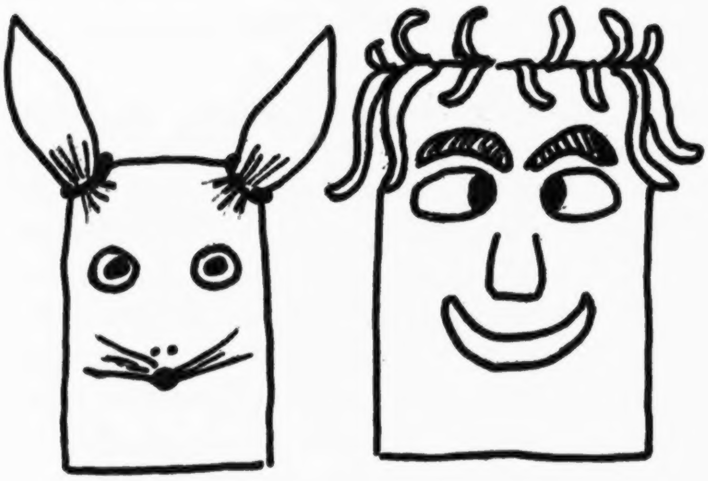
The younger children may need only a paper bag for a mask. Discuss choice of suitable colors and decoration.

Large paper bags from the markets make excellent heads for animals with ears cut from other bags and attached. Take a pleat in the ear at the base to make it stand up. Fashion the mouth from the bottom of the bag by pinching the center together inside and stapling. Cut a hole in one side for the head and reinforce the edge with tape. Pull the open end together and staple. Cut holes for eyes.

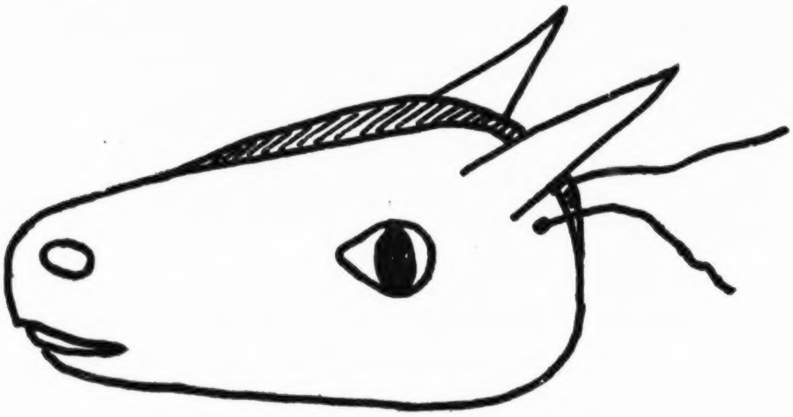


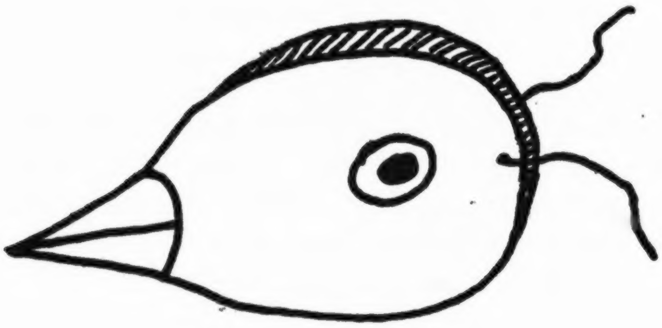
a—stapled *b—hole for head* *c—pleat*

The flat paper bags from department stores make good animal heads and masks. Tie the top corners for ears. Decorate for a face.



Another simple mask can be made of two pieces of thin cardboard, like bristol board or a suit box which is pliable. Fasten the two pieces together in front, cut holes for eyes, attach ears and tie behind the head.



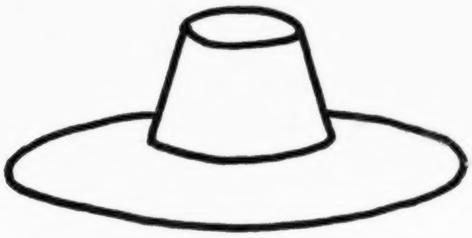


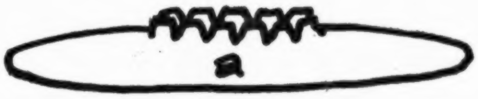
Older children can also make papier-mâché masks. Large masks to place over a child's head may be made of papier-mâché over a chicken wire foundation or over a balloon. Masks for all the characters are tremendously effective and the children are delighted with the fantasy. Refer to section on Mask Making.

ACCESSORIES

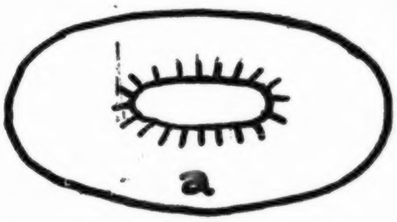
Helmets, hats and other headgear may be made of paper or tagboard. Crowns may be made of tag board and painted with gold or silver paint.

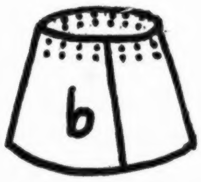
When making a hat, cut the brim first, then cut slashes around the center. Cut crown, forming a tube or cone, and glue. Glue slashed section of brim to inside of crown. Slash top of crown and glue inside the crown.

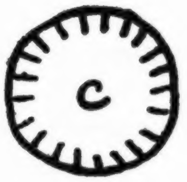




a. Brim







b. Crown *c. Top of crown*

Wings can be made of cardboard or chart paper and attached to the shoulders of the costume. Or a harness can be made and wings attached to the back of it.

MATERIALS FOR DECORATION

For costumes, crowns and other accessories:

- Poster paint
- Wax crayon
- Yarn
- Colored cloth and metallic papers for applique
- Sequins
- Old costume jewelry
- Gold and silver paint, water or oil base

SCENERY

Scenery may be made of wrapping paper and attached to movable or stationary blackboards with screens for flats. Proceed as for murals. If the performance is to be given in the auditorium on a stage that has curtains, the curtains are sufficient for backdrop.

PROPERTIES

Properties may be real, three dimensional or can be painted on a large piece of cardboard or canec. A child can support it from behind or it can be made double like the sandwich advertising man. Or the prop can be presented as it is done in the Chinese theater. A child as a property man appears and says, "I am a tree." Children like the "make believe." Props may also be made of papier-mâché and painted.

GRADES 7 TO 12

Dramatic classes, art or theater craft classes usually design and construct the costumes and scenery for school performances. Sometimes it is necessary to construct properties of papier-mâché. If costumes and scenery are designed on paper or if models of sets are made, they should be part of the whole project and not an end in themselves.

More time will be spent on drawing and painting designs for costumes and scenery than in the elementary grades, making decisions on color schemes and deciding whether the set should be realistic or symbolic. Several students may design the same costume or set, then choose the one best suited to the play.

Costumes may be made of unbleached muslin or other cloth dyed and decorated. Older students may wish to hem edges, but the construction need not be painstaking as in the sewing of other clothing. However, they must hold together if there are several performances.

After designs are chosen for scenery, the designs should be squared off in blocks and transferred to the flats or backdrop which have also been squared off. This is the same method as used in enlarging maps.

The backdrop curtain usually has battens at top and bottom to hold it straight. Gauze (cheesecloth) drops are effective for fog or mist effects. A scene may be painted on curtain scrim, giving an unusual effect.

Curtains at left and right are a good substitute for wings and jogs. Wings and jogs are frames constructed of wood and covered with heavy unbleached muslin, wallboard or wood. A wing is usually about eight feet wide and a jog about four feet wide. They are both about twenty-four feet high. These are called flats when fastened together. If they are to represent foliage, they must be made of wallboard or wood which can project beyond the frame and be cut irregularly to represent the outline of the foliage.

If two sets are needed for a play and there is no storage space, the flats of one set can be made to fit inside the other. The change in scenery can be made quickly.

More illusion is accomplished on sets if they are kept very simple. Just a suggestion is enough and let the audience use imagination. The important role of the designer is to express the mood and feeling of the play as simply as possible.

Painting flats, placed horizontally, is advisable if there is a large enough place so that students will not need to climb ladders. Muslin can be painted over about twenty times before it has to be changed. The flats can be painted with water color or dyes. The water color is a mixture of dry color, whiting, glue and water. The dry color and whiting may be purchased at a paint store. Use a wide kalsomine brush.

More detailed instructions for designing and building flats and sets may be found in the following resources.

RESOURCES

The Code used for books is as follows:

- *** — Recommended for school libraries**
- **# — Listed previously in Resources**
- **L.H. — Library of Hawaii, Music and Art Room**
- **A.A. — Honolulu Academy of Arts, Educational Department**
- **A.D. — Studio of the Art Director**

BOOKS

Upper Elementary and Secondary

White, A. V. *Making Stage Costumes for Amateurs.* New Rochelle, New York: Sportshelf, c1957. L.H.

Secondary

D'Amico, Victor. *Creative Teaching In Art.* Scranton, Pennsylvania: International Textbook Company, c1942 (First Edition). Chapter VII. L.H., A..A,, A.D.

Ommanney, Katherine Anne. *The Stage and the School.* New York: Harper and Brothers, c1939. L.H.

Seldon, Samuel. *Stage Scenery and Lighting, A Handbook for Nonprofessionals.* New York: Appleton-Century-Crofts, Inc., c1936. L.H.

FILMS

Grade Level	Title	Color	Time
7-12	Designing a Set	B & W	10 min.
7-12	Building a Set	B & W	10 "

PHOTOGRAPHY

Photography means "writing with light." Photography can be a creative art project using imagination and inventiveness. It is valuable as a science experience because it teaches the science of light and the scientific use of light sources and light-sensitive materials, but it is an art when the person behind the camera uses science in a creative expression.

Photography has a universal appeal because it is easily understood by everyone. It is the most widely used method of communication today and it has developed into fine art in the works of many artist-photographers. It increases knowledge and understanding of contemporary life.

Students may choose photography for a vocation in the fields of commercial photography, portrait work, photoengraving or photojournalism.

VALUES

Photography:

- Develops sensitivity, the ability to "see" or an awareness of the beauty and design in one's environment.
- Develops self-control, self-direction and self-confidence, the ability to make decisions in choice of subject, mood and composition.
- Offers opportunity for creativity and experimentation.
- Affords a method for experiencing design: importance of line, shape, value, texture, pattern, mood and feeling which also leads to the appreciation of other arts such as painting, sculpture and architecture.
- Offers a hobby, avocation or vocation.
- Develops respect for fellow workers.
- Correlates with many other areas of learning and with school activities.

SUGGESTIONS

Regular classes in photography are necessary to meet the needs of interested students rather than the occasional meetings of a camera club. Students who think they cannot draw or paint are not afraid of the camera. Some people have a need for activities that incorporate a series of processes as in photography such as going on field trips, developing and enlarging.

Most homes have one or more cameras and excellent pictures may be produced with the simplest box camera.

It is rare to find an art teacher trained as a photographer. Many fine photographers are self-taught and if a teacher is interested, it is possible to acquire enough knowledge and experience in leisure time over a period of six months to teach a beginning class. The prerequisites are interest, creative thinking, ability to meet the needs of the students and to discover their interests.

Individual creative expression should be emphasized and appreciation developed through photography magazines and the work of leading photographers.

There must be constant evaluation of work done and a striving to make the next work better.

Discussions for subjects will disclose individual interests. There is a great variety of subjects in Hawaii: the ocean, white and black sand beaches, sea life, exotic and unusual flowers, plants and trees, lava flows, ships, boats, the waterfront, volcanic rocks, the old and the new in architecture, people of many races. Pageants and parades on Kamehameha, Kuhio and Lei (May) Day, Chinese New Year, the Cherry Blossom Festival and Aloha Week offer many interesting subjects.

STRESS THE IMPORTANCE OF THE FOLLOWING:

Work slowly and carefully. Use slow films, slow developers and slow procedures in the dark room.

Order, cleanliness, care of equipment and care in processing will pay off in good pictures.

EQUIPMENT AND MATERIALS FOR A BEGINNING CLASS

Chemicals, special light bulbs, films and printing paper for demonstrations.

Bottle labels, sponges and soap.

Second-hand or new darkroom equipment.

Small darkroom to accommodate four to six students at a time in or near the classroom that is to be used for photography.

Students furnish box camera, old or new camera, black and white film, flash-bulbs and pay for contact printing and enlarging paper as they use it. They will need to pay for commercial processing for a few weeks until they have learned to "see," to "feel," to "take" pictures and to "make" them in the darkroom.

RESOURCES

The Code used for books is as follows:

* — Recommended for school libraries
# — Listed previously in Resources
L.H. — Library of Hawaii, Music and Art Room
A.A. — Honolulu Academy of Arts, Educational Department
A.D. — Studio of the Art Director

BOOKS

Secondary

Textbook for Students

*Miller, Thomas H. and Brummitt, Wyatt. *This is Photography*. Garden City, New York: The Case-Hoyt Corporation, Garden City Books, c1955. L.H.

Booklets for Beginners

"Better Photography Made Easy." Ansco
"Developing, Printing and Enlarging" and "Snapshots Exposed." Eastman Kodak Company

Booklets for Second Semester

"Snapshots Indoors." Eastman Kodak Company
"Enlarging is Thrilling." Federal Manufacturing Company

Leaflet

Exposure Guide included with film.

DISPLAY

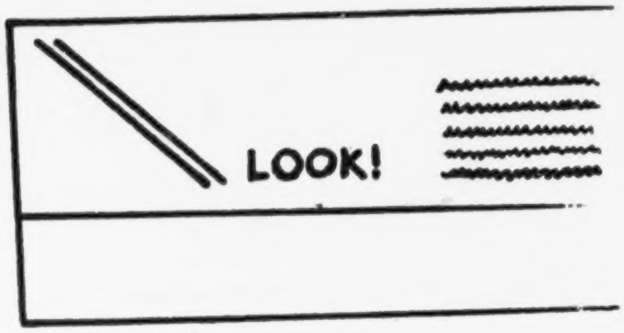
Display is visual communication and as such it facilitates instruction in the classroom. Display may be designed to stimulate interest in new activities, to promote aesthetic appreciation or to inform in a pleasing way. Because it is to be viewed for a limited time, the designer has a wonderful opportunity to invent, experiment and to work unhampered and imaginatively with the material at hand. The frustration that sometimes comes with designing for permanence is not present. A well-planned arrangement should attract interest, hold interest and impress favorably.

THE ROOM AS A WHOLE

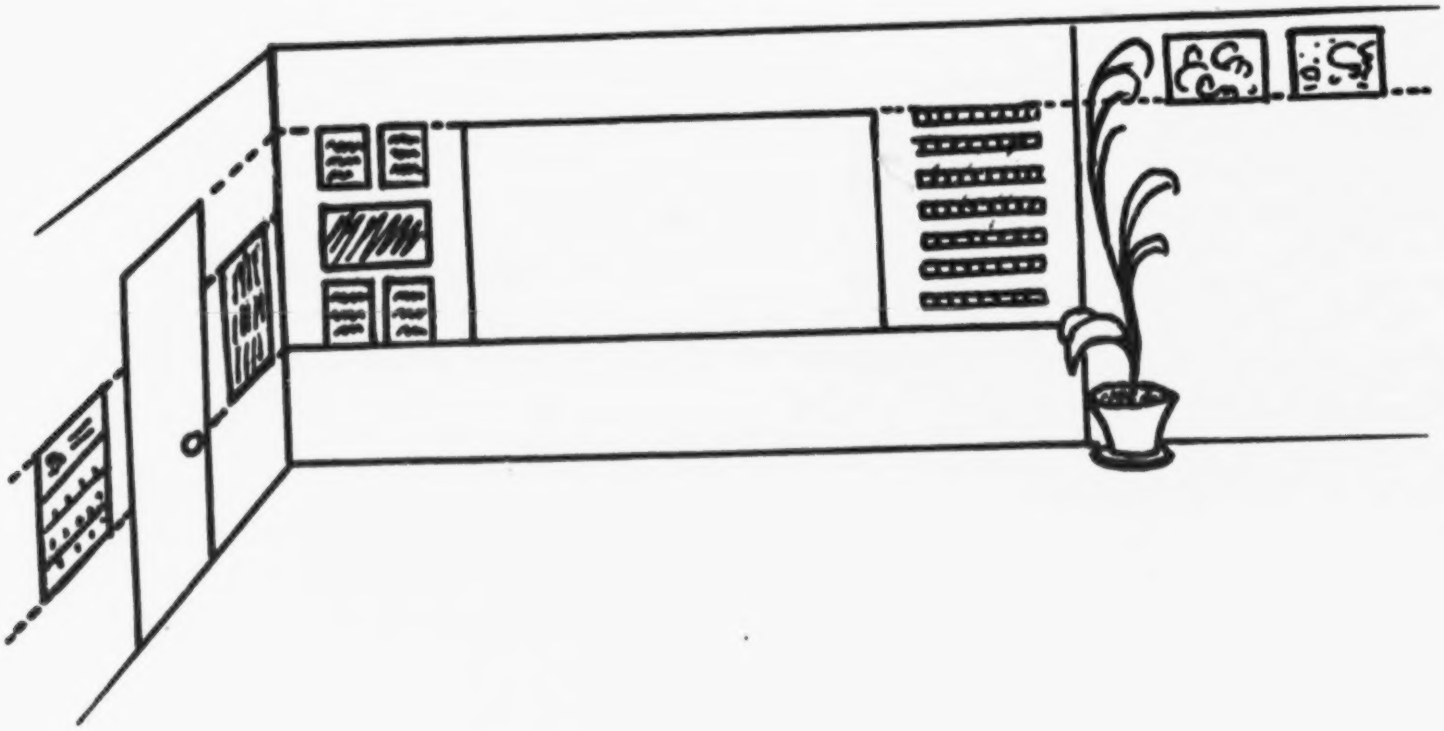
When planning classroom environment, the teacher must take into consideration the permanent facilities of the room such as architectural background, cupboards, desks, shelves and tackboards as well as temporary elements such as plants, aquariums and displays. These must be combined into a harmonious relationship. When placing charts, labels, pictures and exhibits, the teacher should follow the architectural lines of the room made by windows, ledges, chalk and tackboards in order to avoid the distraction of too many line directions.

The horizontal and vertical lines of moldings and ledges should be emphasized by placing exhibition material parallel to these lines.

An occasional diagonal or slanting direction creates dramatic interest. Since it attracts attention, this slanting line should be used sparingly. The teacher should also plan the room environment as a whole, keeping special exhibits part of this whole and not small detached areas.



The strong diagonal

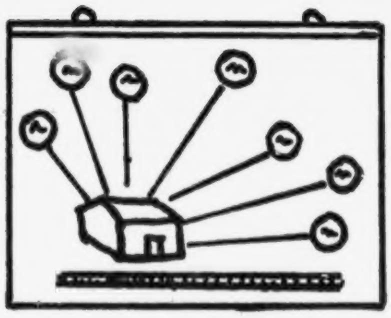


Color used effectively will help to unify the room. Unity can be attained by repreating a color in various parts of the room. The teacher rarely has a choice in the background color of the room, but can lighten, brighten and accent certain areas by thoughtful, imaginative use of color. Color may be used as a decorative element in masses, accents or as a background to attract attention to displays. The use of too many colors results in confusion; to few colors create monotony. Only subdued colors should be used in classrooms for retarded pupils.

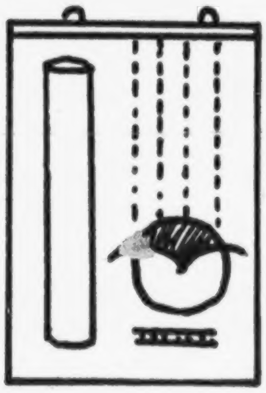
One area in the room should be dominant. Confusion results when there are several units, all demanding attention. Do not show too much material at one time. To be effective, a schoolroom display should be made up of a few well-chosen objects changed frequently. Leave some areas in the room free from decoration in order to rest the eyes.

TYPES OF DISPLAYS

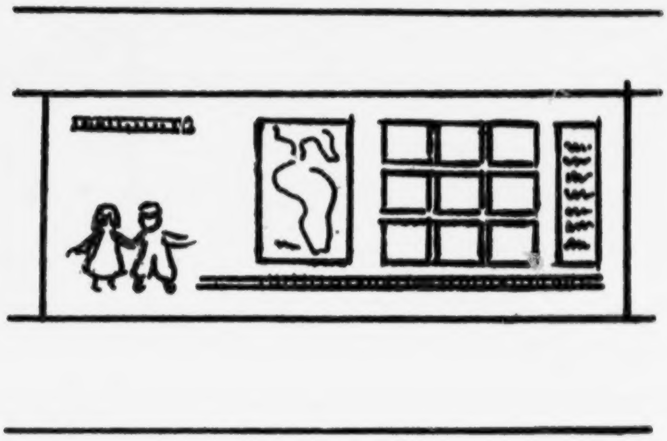
TWO-DIMENSIONAL WALL DISPLAYS



Portable pin-up boards standing on chalk rail or hung from molding

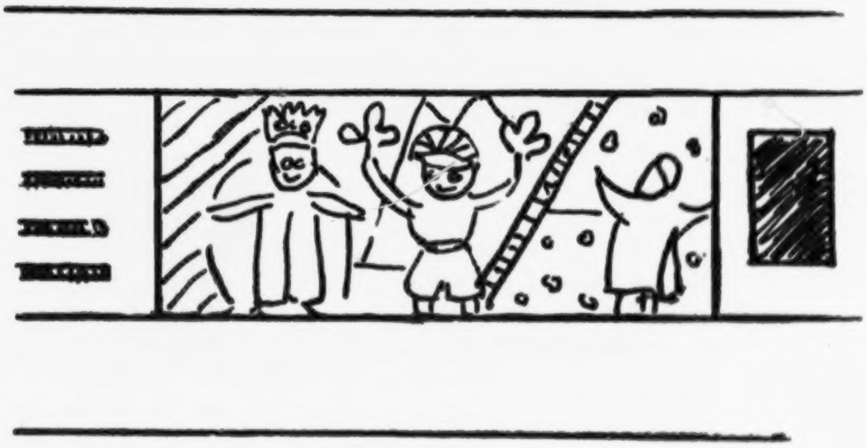


LARGE WALL AREAS



Tackboard display

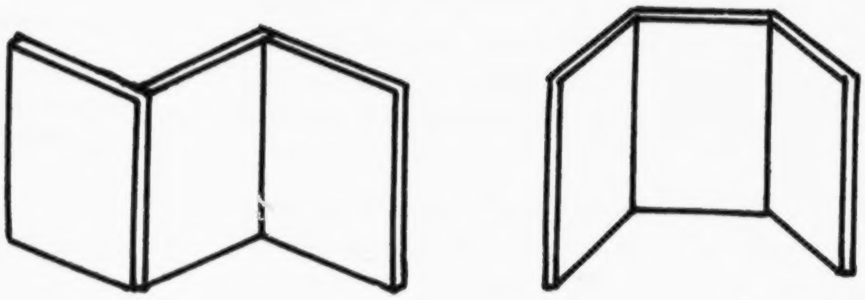
Blackboard covered by mural

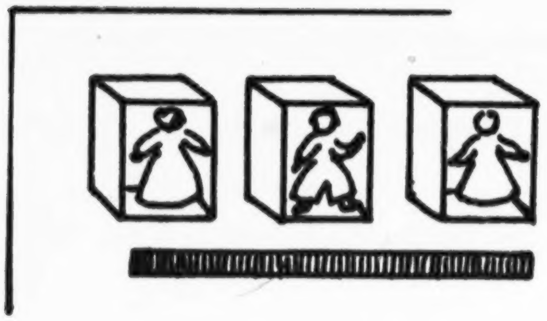


THREE-DIMENSIONAL DISPLAYS

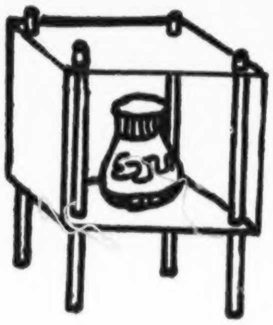
Pegboard, movable panels, pin-up shelves, boxes and niches

Canec panels fastened with 2" bank pins



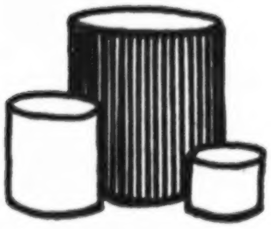


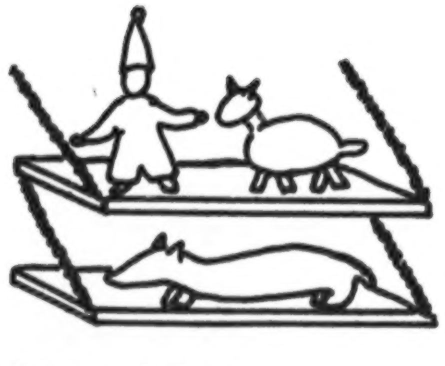
Pin-up boxes



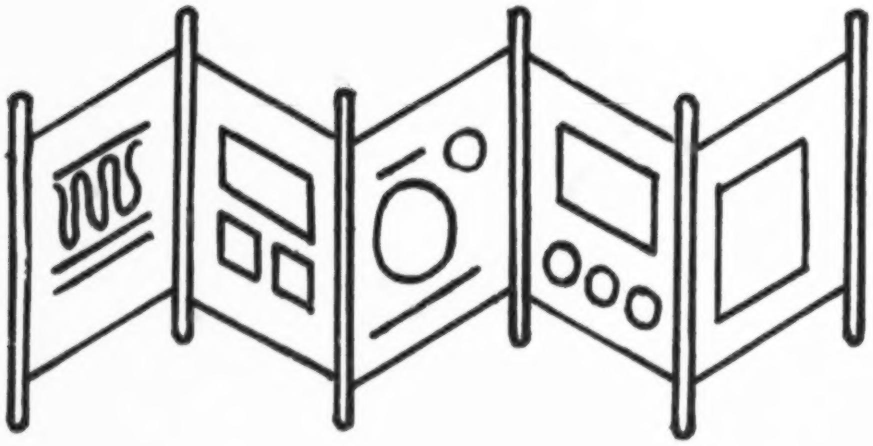
Box with dowels

Round boxes painted or covered with plain or corrugated paper



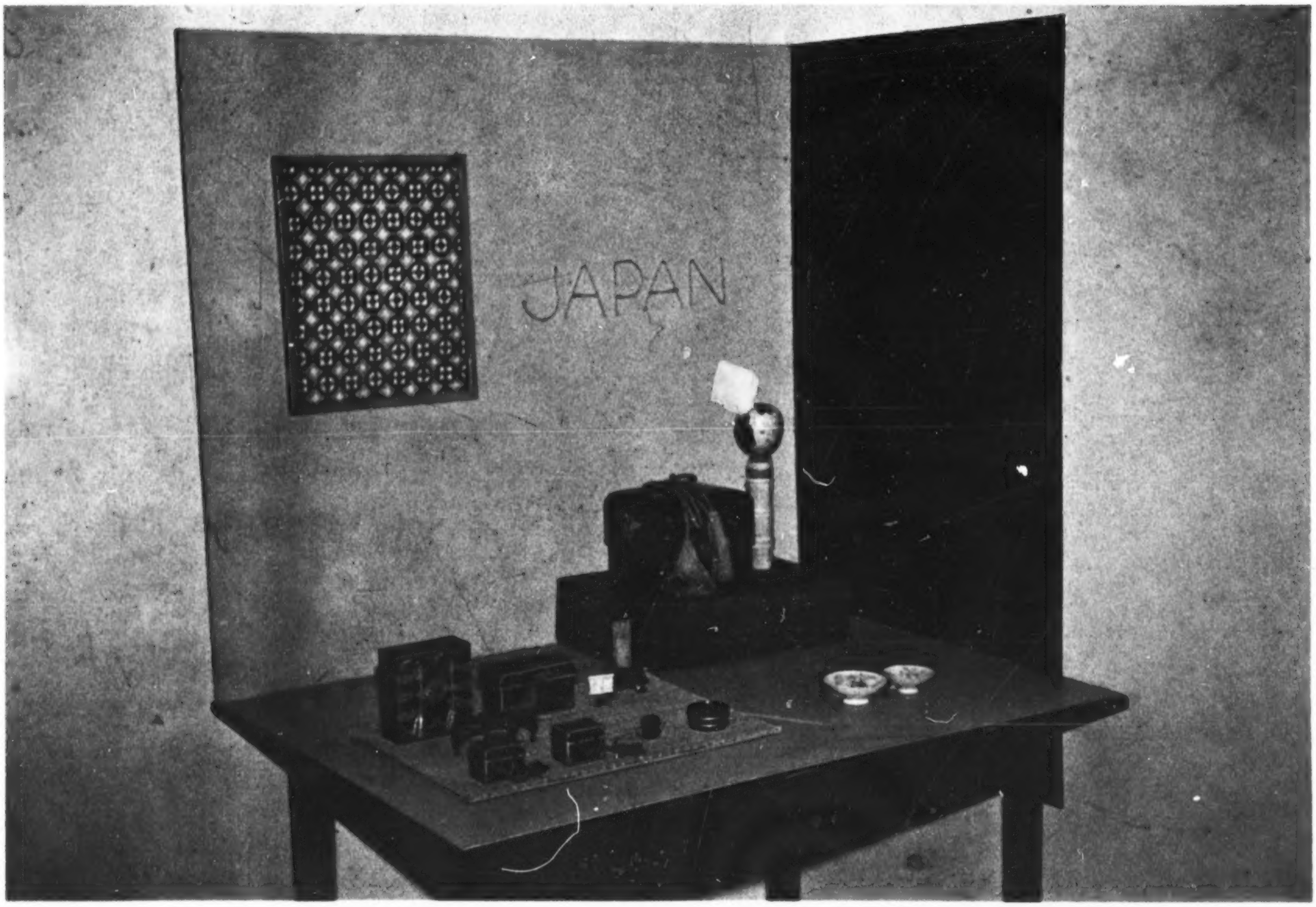


Pin-up shelves



Panels of cardboard or canec attached to dowels or wood strips

Display



HANGING DISPLAYS

Mobiles or other hanging objects.

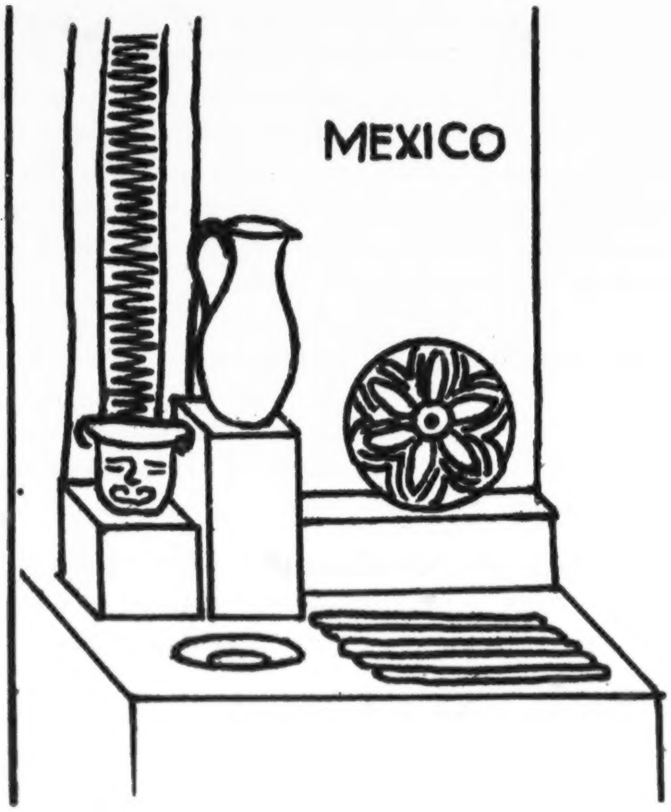
STATIONARY DISPLAYS

Stabiles, ceramics, sculpture, dolls, aquariums.

TABLE, SHELF AND SHOWCASE DISPLAYS

COMBINATIONS

Combining table or desk with wall to form a single display unit is an effective way of showing both flat and three-dimensional material.



Combining table and wall

PROCEDURE

Art has no rules. However, certain basic elements and principles are common to all works of art. In planning a display, the designer successfully organizes the art elements of line, form and shape, color and space, using principles of balance, rhythm, emphasis and subordination, repetition and proportion.

Teachers who have had no background in art can develop a feeling for good design by organizing shapes, colors and lines into orderly, simple arrangements as suggested in the preceding section Types of Displays. Shapes must balance each other. They can be repeated to give a feeling of rhythm or continuity. Colors give accent or emphasis and by repetition serve to unify a display. Lines provide direction and motion. Both shapes and the spaces around them are important and should be used thoughtfully. Plain spaces provide a pleasant contrast to decorated areas. The placing or relationship of various parts of a display is also important. Grouping objects instead of spacing them evenly is often desirable. Emphasize one part of the display, subordinate the other elements.

Whenever possible, students should participate in planning school displays. Display material can be selected and organized by small groups or committees acting with teacher guidance. Participation in such practical art experiences will make students aware of the art quality or the lack of it in the things they see around them, not only in the school but at home and in other surroundings. Thus they will grow in appreciation.

In the classroom, the displays previously described can be small and fairly specific in interest. Outside the classroom as in cafeterias, assembly rooms, corridors, halls, libraries and offices, they should be of general or community interest and usually can be planned on a large scale. In some of these areas there is often a suitable place for large murals.

Sometimes a display can be a continuing project with the general design planned by one group of children and with new material added from time to time by others until the display is complete.

First choose the theme or idea for a display. In selecting the theme, it is wiser to concentrate on one idea than to introduce several ideas which may create confusion. Choose a suitable location, then assemble the objects to be displayed. All display is concerned with three types of physical materials:

Theme materials, two- and three-dimensional with appropriate captions
Supporting materials, two- or three-dimensional to enrich and enhance the main idea
Equipment necessary to construct the display

Teachers and students should be imaginative and inventive in their selection of materials. String, yarn, rope, wire, plastic, cardboard, cloth and fish net are only a few of the possibilities. Motion devices such as mobilies create additional interest.

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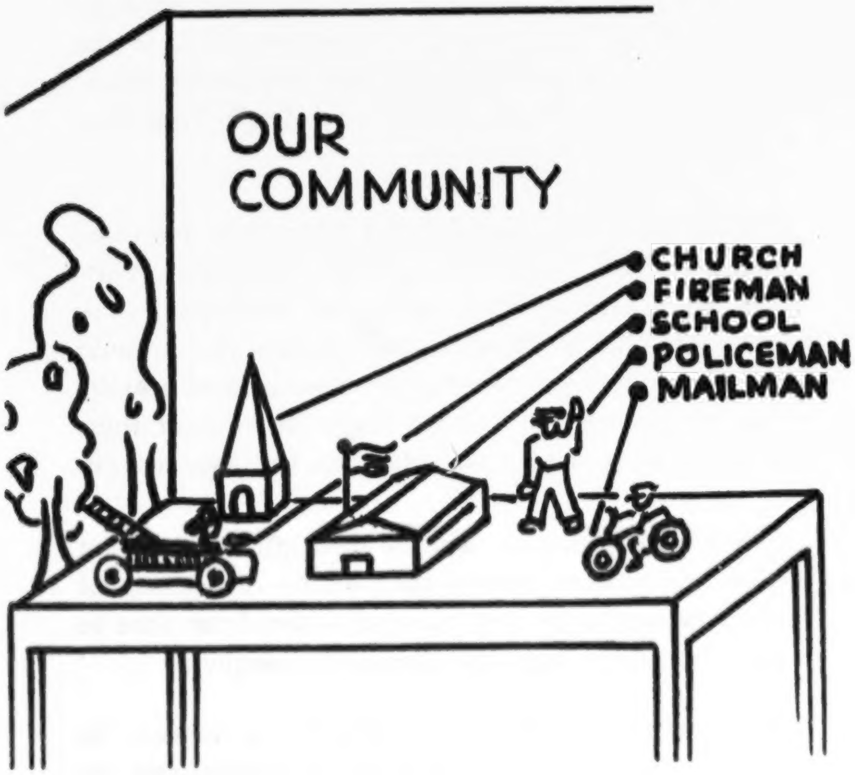
In designing the display, it is good to remember that the eyes are influenced by the direction in which objects or figures face, the pull of directional line and the emphasis and subordination of areas involved.

Captions should be clearly and briefly worded to aid the display. For example, a caption which is made up of a few well-chosen words and tied in successfully with the arrangement will aid in attracting immediate interest and attention. The wording should be simple and directed toward the viewer. Lettering should be legible, appropriate to the problem and simple with words spelled correctly. Letter forms which are unique, not good in design or difficult to read should be avoided. Refer to section Lettering and Posters.



Simple, clear captions

When finished, it is good practice to evaluate the display on the basis of its attention value, retention of interest, imagination, good design and craftsmanship.

SUGGESTIONS

Change displays frequently. Replace exhibits with new ones promptly when they have served their purpose.

For three-dimensional exhibits, group objects to achieve harmony and interesting space division. The size, shape, height, color and kind of objects and their design are elements to be considered in forming groups within a display.

Arrange objects at different distances from the front to the back of the show space and on different levels. Small blocks or boxes serve well as stands to provide height and variety. They may be painted if necessary.

Generally, it is better not to use windows or doors as display spaces. Using these areas presents a design problem. Avoid the use of blackboards for displays except when completely covered as with a mural.

In a classroom the space above the blackboard is difficult to use as a display area. Often it is better not used at all, although it can be an effective spot to place a large and easily-read caption, a strip of color as a decorative accent or bright, easily seen objects made by the children such as masks. Whenever this space is used, the size and visibility of the material placed on it must be considered. Small pictures **do not** belong in this area.

Hang framed pictures at eye level.

Use common pins when an invisible fastening device is needed. They stay in place and look better than thumb tacks.

If teachers are not allowed to paint canec tackboards, paint a piece of wrapping paper cut to fit the area where a large color accent is needed.

EQUIPMENT AND MATERIALS

Canec, large and small pieces.
Paint, rubber base and poster (assorted colors)
India Ink Crayons
Chalk, white and colored Charcoal
Pins
  Architects'
  Straight pins, three sizes (1/2, standard, 2")
  Colored thumb tacks
  Nails, assorted
  Colored upholstery tacks
  Carpet tacks
Masking tape Wheat paste
Large roll of wrapping paper at least 3' wide
Colored poster board
Colored poster paper
Wood blocks, assorted sizes
Glass blocks Bricks
Firm cardboard boxes, assorted sizes

Scrap materials:
- Corrugated paper, cardboard tubes, cardboard ribbon holders, wooden dowels, cork, cloth, beads, egg dividers, plastic, drinking straws, wire, bottle caps, sandpaper, wire screen, pipe cleaners

Letters
- Plastic or plaster commercial type
- Cardboard
- Paper cut from magazines
- Refer to sections Lettering and Posters

Stapler, type which can be opened and used as a gun.
Scissors   Pinking shears
Tin snips   Hammer
Paper cutter   Pliers   Screwdriver
Speedball lettering pens, assorted sizes
Brushes, assorted sizes
Brush, large and wide
Ruler   Sponges

RESOURCES

FILMS

Films for Teachers

Title	Color	Time
Bulletin Boards, An Effective Teaching Device	Color	11 min.
Better Bulletin Boards	B & W	13 min.
Wet Mount Pictorial Material Backing pictures and maps with cloth for display	Color	11 "

EXHIBITIONS

Every elementary school should have exhibitions of children's art work during the year. An exhibition is often arranged in each classroom where every child is represented by one painting, drawing or craft. This exhibition usually coincides with an open house meeting for the P.T.A. Then examples of good work from each grade level are chosen for a comprehensive exhibition to be hung in the cafeteria or other large area. This show should not be a contest, but a display which shows the creative growth of children from kindergarten on up. This helps to develop an understanding among parents, principals and teachers of the type of work expected from children at different stages of growth through art activities. At some time during the year each pupil should have had something displayed in this exhibit.

Annual School Art Exhibition—Honolulu Academy of Arts

Annual School Art Exhibition—Honolulu Academy of Arts

From this comprehensive exhibition and from good work saved by the teacher as the year progresses, choices can be made for a school exhibit and for art work to be sent to an annual school art exhibition held in each locality. Art work for the community exhibit should be carefully chosen to show what is representative of good work in drawing, painting and crafts at kindergarten, primary, upper elementary and secondary levels.

In the secondary schools, the art teacher usually has an opportunity for continuous exhibitions in the art room, in display cases, in corridors, cafeterias and auditoriums.

These exhibitions are of great importance because they stimulate interest in the art program among faculty, pupils, parents and others in the community.

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